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DEPARTMENT OF RESOURCES AND DEVELOPMENT

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BIRDS OF THE WEST JAMES BAY  
AND SOUTHERN HUDSON BAY COASTS

By  
T. H. Manning

1952

*Price, 25 cents*

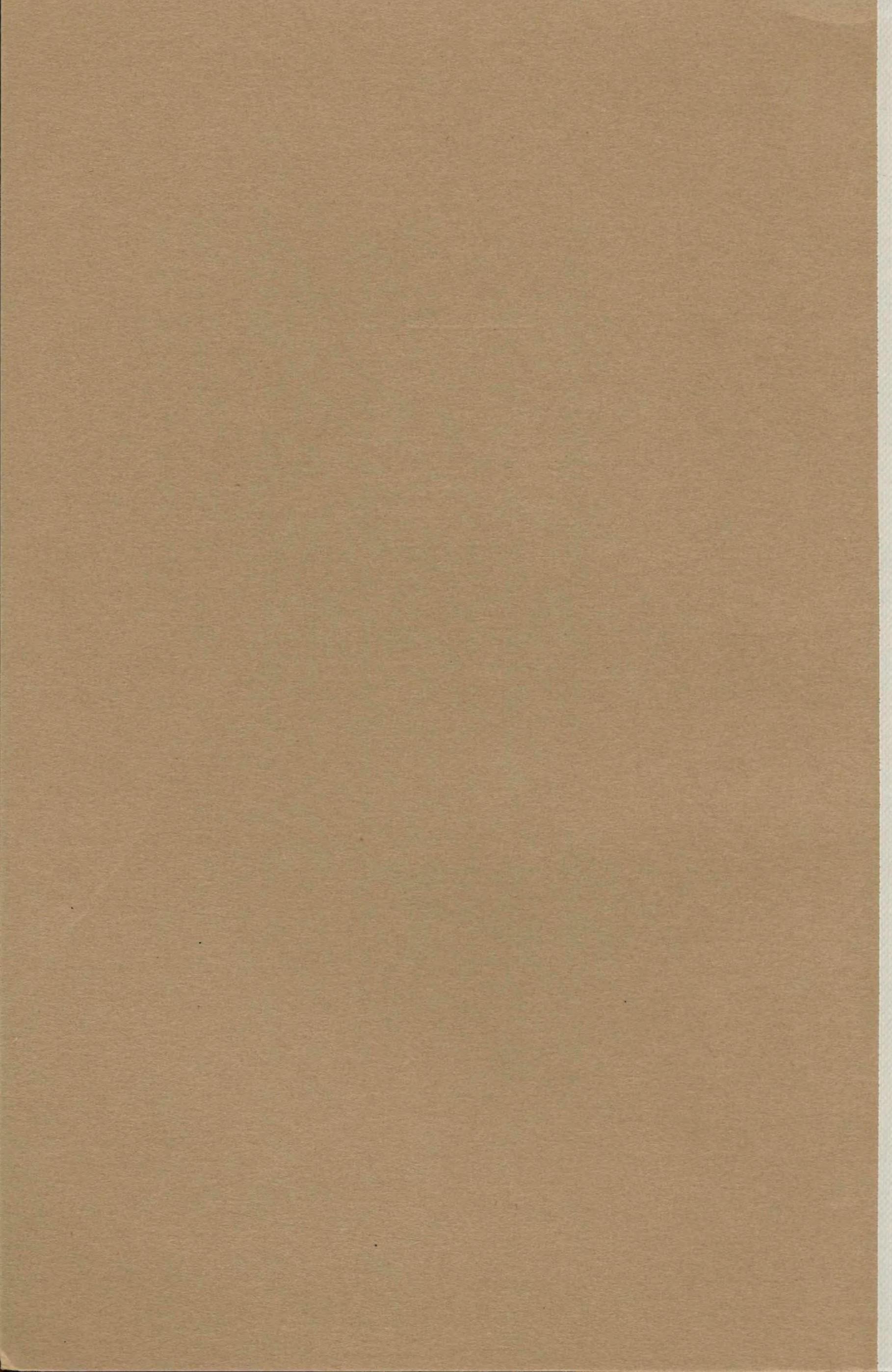












PLATE I



Big Piskwanish. June 11, 1947. Our camp on the gravel ridges at Big Piskwanish. Behind the ridges can be seen the flooded marshland and in the distance the comparatively dry spruce woods bordered by willow and alder thickets.

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NATIONAL PARKS BRANCH  
NATIONAL MUSEUM OF CANADA

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BULLETIN No. 125

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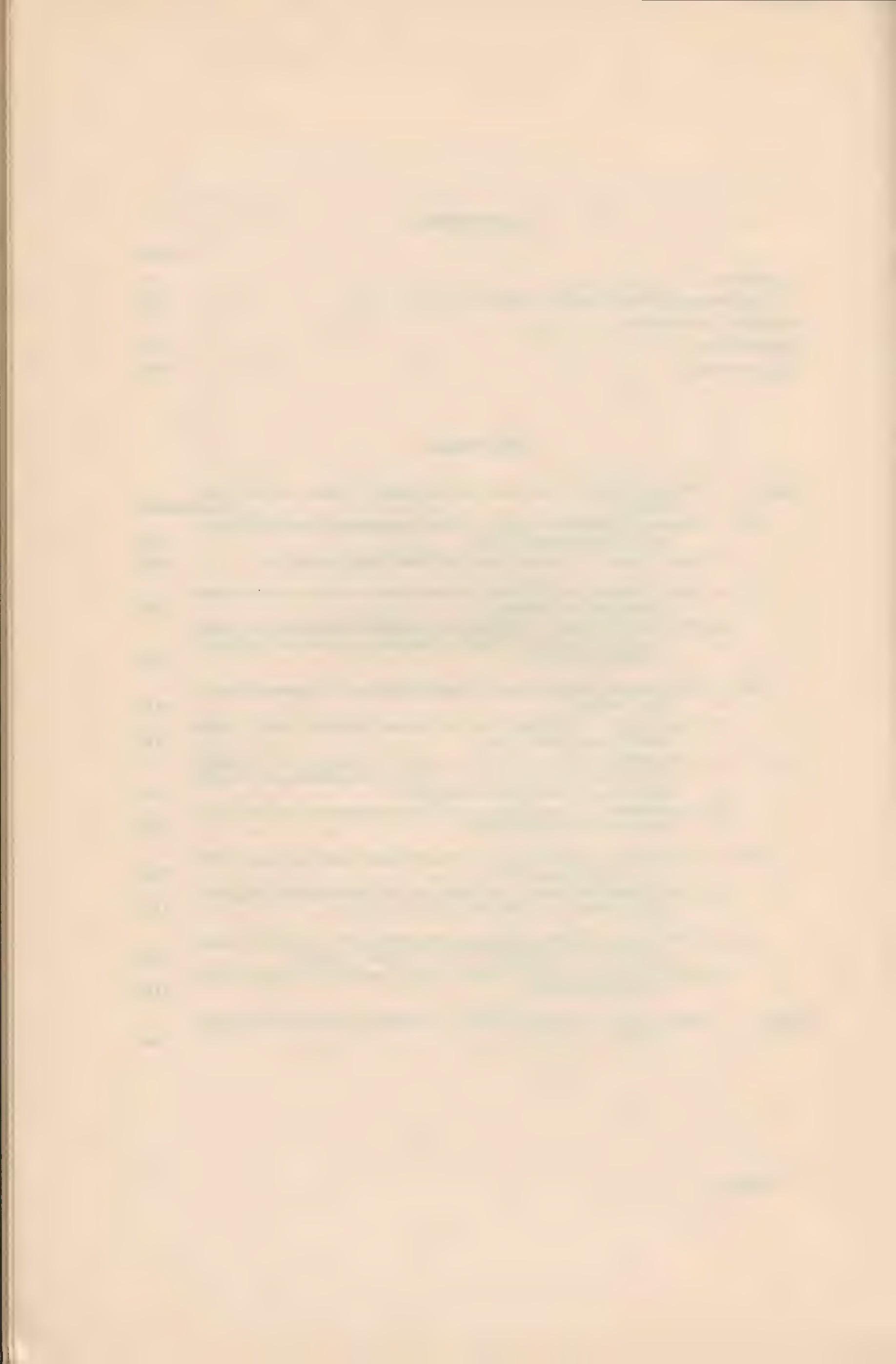
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## BIRDS OF THE WEST JAMES BAY AND SOUTHERN HUDSON BAY COASTS

### INTRODUCTION

This paper is primarily a report on the birds seen and collected by myself and my assistants along the west James Bay and southern Hudson Bay coasts in 1947, and near the Moose River estuary in 1949. In 1947, W. Forrester, D. MacKenzie, D. M. Croal, and I were engaged in obtaining astronomical control positions for the Geodetic Service of Canada along the west coast of James Bay including Akimiski Island, and the south coast of Hudson Bay westward to York Factory (Manning, 1948). We left Moosonee by canoe on May 28 and arrived at York Factory on August 29. While waiting at our points for nights clear enough to take astronomical observations, we had some spare time during which I collected birds and made notes on their population densities. My assistants, particularly D. MacKenzie, helped with the skinning. In 1949 I was a member of the Geographical Bureau's party (Manning, 1950) which was delayed at Moosonee awaiting the arrival of a Peterhead boat, and my assistant, A. H. Macpherson, and I spent most of the time between June 13 and July 3 collecting birds and mammals in the Moose River estuary area. On the way to eastern James Bay in 1950, Macpherson and I passed through Moosonee on June 24, and on our return we spent the days between September 7 and 12 at Sandy Island and Ship Sands.

As a result of the work done in 1947 and 1949, over 750 specimens of birds from the west James Bay and southern Hudson Bay coasts have been added to the collections of the National Museum of Canada. To the observations made during these two years, I have added the available published and unpublished records for the coast from Moose Factory to Nelson River and an adjacent strip of hinterland about 15 miles wide. Thus the numerous records from the environs of Moose Factory, Moosonee, Attawapiskat, Fort Severn, and York Factory, all places on tidal estuaries, are included.

At first glance, a strip of land 15 miles wide and extending through 6 degrees of latitude appears to be an unnatural unit, but difficulties in presentation, particularly of my own records, have arisen from the bewildering ecological changes which occur (along most of the coast) during a 3-mile walk inland, rather than those existing between Moose Factory and York Factory. Indeed, there is a remarkable similarity between these two places, and the difference in their wind chill factors is probably less than that between the coast and the treeline, a mile or two inland.

In spite of the lack of any prolonged observations at York Factory, about half the 220 records or hypothetical records listed in the following pages have been recorded both in the vicinity of the Moose River estuary and near York Factory or Cape Tatnam. Of the remainder, half have

not been recorded in the York Factory area, a quarter have not been recorded in the Moose River area, and a quarter have either been recorded only at the intervening places or vaguely noted for the general region.

I have attempted to include all published records which refer to a reasonably definite locality within the area being considered. In assembling these, I have received considerable aid from the records kept at the National Museum, and references given by Preble (1902) have proved most helpful. A few old records of the more widely distributed species do not add much to modern knowledge, but for the sake of completeness they have been retained. I am very much indebted<sup>1</sup> to O. H. Hewitt, J. P. Kelsall, Louis Lemieux, and G. M. Stirrett for permission to include a large number of sight records which were made by them in southwest James Bay while they were engaged in special work for the Dominion Wildlife Service. These records were originally entered as part of their respective diaries and were not intended as complete lists of all the birds seen each day, which explains the omission of some of the common species. The relevant notes were extracted from their diaries by Hewitt, Stirrett, and Kelsall. Hewitt, Kelsall, and Lemieux were in James Bay in 1947, and Kelsall and Stirrett in 1948, but in both years, part of their time was spent on the southern and eastern coasts.

In 1947 Hewitt and Lemieux arrived at Moose Factory on May 21, and Kelsall on May 24. They set up camp on Sandy Island on May 26. On May 30 Hewitt returned to Ottawa, and the others worked in the area around the mouth of Moose River until June 24, when they went to Big Piskwanish. Next day they continued to Fort Albany; here they remained until June 30 when they commenced the return trip to Sandy Island. They were at Sandy Island again from July 1 to 16, from July 21 to August 2, and from August 10 to September 4. On the latter date Lemieux left for the east side of the bay, while Kelsall spent the next few days between Sandy Island and Moose Factory moving the camp. He left for Ottawa on September 8.

In 1948, Stirrett arrived at Moose Factory on September 27, and Kelsall arrived on September 30. On October 3 they flew to Attawapiskat and next day went to the southwest point of Akimiski Island, where they remained until October 6. They left Attawapiskat by air on October 14 and returned to Moose Factory. Except for October 15, when Kelsall flew to Rupert House and back, and October 18, when Stirrett flew to Fort Albany and back, they were both at Moose Factory from October 14 to 19. On the latter date they both left for the east side of the bay, Stirrett returning to Moose Factory on October 21, and Kelsall on October 24. They both left for Ottawa on October 26.

#### PREVIOUS ORNITHOLOGICAL WORK IN THE REGION

The importance of the west coast of James Bay and the southern coast of Hudson Bay from an ornithological standpoint is enhanced by the number of species which has been described from types originating in the area. This resulted from the bird collections, some of the earliest made in

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<sup>1</sup> I also wish to acknowledge the assistance received from Mr. W. E. Godfrey, who has read the manuscript and made several helpful suggestions, and from Mr. W. K. W. Baldwin, who has checked the descriptions of places in the Moose River region.

North America, which were sent to England by officers of the Hudson's Bay Company. The first two of these officers whose names have been recorded were Alexander Light and James Isham. Isham first went to York Factory in 1732, and in 1737 he was made chief factor. In 1741 he was transferred to Churchill, where he remained until 1745 (Rich, 1949). In that year he returned to England, taking with him at least part of his bird collection, which had probably been obtained during his residence at York Factory and Churchill. In 1749 he returned to England but was back at York Factory again in 1750 (Rich, 1949). During his residence at York Factory and Churchill, Isham prepared a manuscript entitled "Observations on Hudsons Bay." This manuscript, which has recently been published, was probably submitted to the London Committee in 1744 (Rich, 1949, p. lxv). It contained a few notes on the birds, but unfortunately, like his specimens, it is usually not possible to be sure whether his remarks refer to Fort Factory or Churchill. Light also took his collection of birds to England about 1745<sup>1</sup> (Swainson & Richardson, 1831, p. ix), and both he and Isham entrusted their specimens to Edwards, who (1743, 1747, 1750) described and figured 38 species from their collections (Swainson & Richardson, 1831, p. x). Later, a number of systematic descriptions by Linnaeus and others were based on Edwards' work (A.O.U. 1931).

In 1746-47 the exploring vessels *Dobbs* and *California* wintered at York Factory, and both Ellis (1748) and Drage (1748, 1749) gave some account of the fauna of the region. That of the former was later criticized by Isham (Rich, 1949, p. 200).

In 1771 a collection of mammals, birds, and fish, made by Andrew Graham at Severn River, was given to the Royal Society by the Hudson's Bay Company (Stearns, 1945). This collection, comprising 57 species, of which 22 had previously been made known by Edwards (Swainson & Richardson, 1831, p. x), was described by Forster (1772). Shortly afterwards, several hundred specimens of animals and plants from Fort Albany were sent home by Humphrey Martin (Swainson & Richardson, 1831, p. x), and a small collection by an unrecorded donor from Moose Factory (Baillie, 1946). In 1774 (Tyrrell, 1911, p. 408) Martin was succeeded at Fort Albany by Thomas Hutchins, who not only prepared many specimens (Swainson & Richardson, 1831) but wrote a 651-page manuscript dealing with Hudson Bay. This manuscript, of which pages 45-180 deal with birds, was apparently concerned principally with Fort Severn and was completed shortly before 1785 (Preble, 1902). It has been quoted by Pennant (1785), Swainson and Richardson (1831), and Thompson (1891).

A considerable number of birds were collected at York Factory between July 14 and the beginning of September, 1822, by the first Franklin expedition (Swainson & Richardson, 1831, p. xiv). The collections of this expedition are listed by Sabine (1823), but in most cases he gives no localities, and some of the waders are entirely omitted. By the time that Swainson and Richardson came to study them, many had been destroyed by moths (Swainson & Richardson, 1831, p. xv). An appendix by G. R. Gray (pp. 201-204) to Rae (1850) gives a list of birds, some of which may have been collected at York Factory before Rae left there on June 13, 1846,

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<sup>1</sup> Edwards (1743, p. 46), however, dates his plate of the "Coot-footed Tringa", drawn from Light's specimen obtained off Maryland, 1741.

or after his return on September 6, 1847. These specimens, labelled only "Repulse Bay", are still preserved in the British Museum. Later, Rae (1888 a, b) published an account of the birds of the Hudson's Bay Company's territories, based largely on his observations at Moose Factory and York Factory. He had lived at the former place for 10 years. King (1836, vol. 2, pp. 268-284), on his return from his journey with Back down Great Fish River, stayed at York Factory from August 26 to September 20, 1835, but he gives no details of the birds from that locality, neither are any specimens from there mentioned by Richardson in his appendix to Back (1836, pp. 475-522).

Baird (1858), in his list of the birds in the Smithsonian collection, mentions a few specimens received through Donald Gunn and collected at Nelson River by John Isbister. These specimens are referred to here only in a few cases, since their exact origin is doubtful. Blakiston (1863), who apparently knew Gunn at Red River, implies that the birds were taken at different points along the Nelson and not specifically at York Factory or Nelson House.

Murray (1858-59) gives an annotated list of the birds he received from officers of the Hudson's Bay Company. A number of these birds came from Severn House, and as several of them appear more likely to have been taken on the coast than inland, Severn House has tentatively been assumed to be Fort Severn and not Severn Lake House. Preble (1902) and Baillie and Harrington (1936) follow Thompson (1891) in the reverse assumption, but Blakiston (1863, p. 62), who was at York Factory about the year when the collection was made, clearly considered Severn House to be on Hudson Bay, not inland like Trout Lake; furthermore, Arrowsmith's map (1802) and the general map accompanying Franklin (1828) mark Fort Severn as Severn House. Murray's specimens, which are labelled only Hudson Bay, have generally been omitted from the list, as it is felt that the locality is too doubtful, especially as it might include some of the Hudson's Bay Company's inland territories (Cf. Blakiston, 1863, p. 151).

Barnston (1841), an officer of the Hudson's Bay Company, was a resident at Martin Falls on Albany River in 1839-40. This is outside the area of this paper, and it has been assumed that specimens from Albany River taken by him came from its upper reaches, although he was undoubtedly stationed at posts on Hudson Bay, probably including Fort Albany, and in later articles (1860, 1861) he gives considerable information on the swans and geese of that and other places on James and Hudson Bays. Blakiston (1857) arrived by ship at York Factory on August 9, 1857, and left for the West towards the end of the month. While at York Factory, he (1861, 1862, 1863) recorded and collected a few birds and later received other specimens from there through J. R. Clare of the Hudson's Bay Company, and the Rev. J. P. Gardiner. Besides these specimens, Blakiston (1863) obtained others for which he records no localities except Hudson Bay. There is a presumption that they also came from York Factory, but owing to the uncertainty, only the more unusual records are mentioned in the following list.

Turner (1886) and Baird (1874) list several specimens in the Smithsonian Institution which were collected by C. Drexler in 1860 and James

McKenzie in 1862. Another collection was made at Moose Factory in 1881 by Walton Haydon. These specimens also went to the United States National Museum (Preble, 1902).

Bell (1880, pp. 67C-70C) gives a briefly annotated list of birds he collected or was given by Dr. Percy Matthews and Mr. Henry Johnstone at York Factory, Churchill, and their vicinities in 1878 and 1879. He obtained additional material on his short visits in 1880 and 1884 (Bell, 1881, 1882, 1884). Captain Albert Markham (Fielden, 1887) also collected a few birds at York Factory during his short stay between August 5, 1886, and about the middle of that month.

In 1900 E. A. and A. E. Preble (1902) collected birds and mammals at York Factory from July 11-17; then they went up the coast nearly to Eskimo Point. They returned by the same route, arriving at York Factory on August 26 and leaving to return inland up Hayes River on the 28th.

In 1896 W. Spreadborough spent the second week of June at Moose Factory before going up the east side of James Bay (Low, 1898, p. 7L). In 1904 Spreadborough again visited James Bay and probably reached Moose Factory about the same date as in 1896. He first went east to Point Comfort and then up the west coast to within about 20 miles of Cape Henrietta Maria (O'Sullivan, 1905). Spreadborough's observations were incorporated in Macoun (1900, 1903, 1904), and Macoun and Macoun (1909). In some instances, Macoun and Macoun (1909) refer to Spreadborough's observations in this region in 1903, but this is clearly a *lapsus calami*.

In 1914 Comeau (1915) investigated the fisheries along the coast from Owl River (north of Nelson) to Cape Tatnam and probably 20 to 50 miles up Nelson River. He gives a list of the birds killed and observed while in the region, but it is not always clear exactly where his observations were made, and a few of his records, which give only vague information on common species, have been omitted. He arrived at Nelson by ship on August 14 and left on September 27.

In 1908 Todd (1943) collected birds from along Moose River down to James Bay, and since then he has been eight times in the James Bay region but probably not along the coast west of Moosonee. Unfortunately he has not yet published any full faunal lists of the area.

A few specimens in the National Museum of Canada were collected between Moose River and Albany River, and near Moose Factory by Frits Johansen in the summer of 1920 when he was working for the Biological Board of Canada. Williams (1920) gives an annotated list of birds he observed in 1919 during a geological trip down Moose River from the transcontinental railway to Moose Factory. He appears to have been in the area covered by this paper (i.e., below French River) from August 18-21. A similar list resulted from his trip down Albany River in the following year. He was at Fort Albany and the vicinity of the Albany estuary from about August 16 to August 27, 1920 (Williams, 1921). Baillie and Harrington (n.d.) record several specimens in the Royal Ontario Museum of Zoology which were collected at Moosonee by S. Waller, who was resident there for several years about 1928. In 1931 and 1932, several interesting specimens were collected from Fort Severn and York Factory by Hugh Conn, Chief Inspector for the Hudson's Bay Company (Norris-

Elye, 1932, 1933). Lewis (1939) remarks on a few species of birds seen in the Moose River estuary region between September 18 and 25, 1938. Further notes on the birds of southern James Bay resulted from the observations of Lewis and Peters (1941) in 1940. They spent the night of September 14 at Moose Factory, then went to Attawapiskat, stayed on the central and western south shore of Akimiski Island from September 18 to September 20, called at Albany about September 22, and were back at Moose Factory on September 23. They left there for eastern James Bay on September 26 and again passed through Moose Factory between October 5 and 7 on their way south.

Five expeditions sent out by the Royal Ontario Museum have worked in this area, but most of the results are still unpublished. On the first expedition in 1939, L. L. Snyder, T. M. Shortt, and D. B. Deeks worked along the railway to Moosonee, where the last two stayed from July 6 to 31. Deeks then continued to Attawapiskat post, where he stayed until September 9. In 1940 Clifford Hope spent six weeks at the Severn River. In 1942 Hope and Shortt went by canoe from Moosonee to Fort Albany between May 25 and July 15 (Shortt, 1948). As yet, only the observations on shore birds made during their return journey have been published. Their principal stations were the mouth of Albany River, July 15; the mouth of Nettichi River, July 16 to 20; and Big Piskwanish, July 20 to 25. Commencing on July 17, they observed a remarkable southward migration of shore birds with occasional periods of reverse migration. All the specimens of shore birds which they obtained, as well as all those that could be satisfactorily distinguished, were adults (Hope & Shortt, 1944). In 1948, a party under Hope worked in the Cape Henrietta Maria region. (See The Arctic Circular, 1948, p. 69, for plans.)

In 1943 R. H. Smith of the United States Fish and Wildlife Service investigated the distribution and abundance of waterfowl at Moosonee and on the south and east coasts of James Bay. In 1944, travelling by canoe to Cape Henrietta Maria he did the same on the west coast. His reports are still in manuscript and have therefore not been used in this paper. When published, they will make a valuable addition to our knowledge of the birds, particularly the waterfowl of James Bay.<sup>1</sup>

In 1946 and 1947 Harold C. Hanson conducted an investigation of the waterfowl in the James Bay area, with particular reference to the Canada Goose (Hanson & Smith, 1947; Hanson, Rogers & Rogers, 1949; Hanson & Smith, 1950, p. 73). In 1947 Donald Coates and Donald Coombs (Coates, 1947) worked on the islands and east coast of James Bay for the Geodetic Survey of Canada, and the former collected about 150 birds, including a few from Moosonee, which are now in the National Museum.

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<sup>1</sup> Since this was written, his report on the Canada Goose has been published in collaboration with Hanson (Hanson & Smith, 1950).

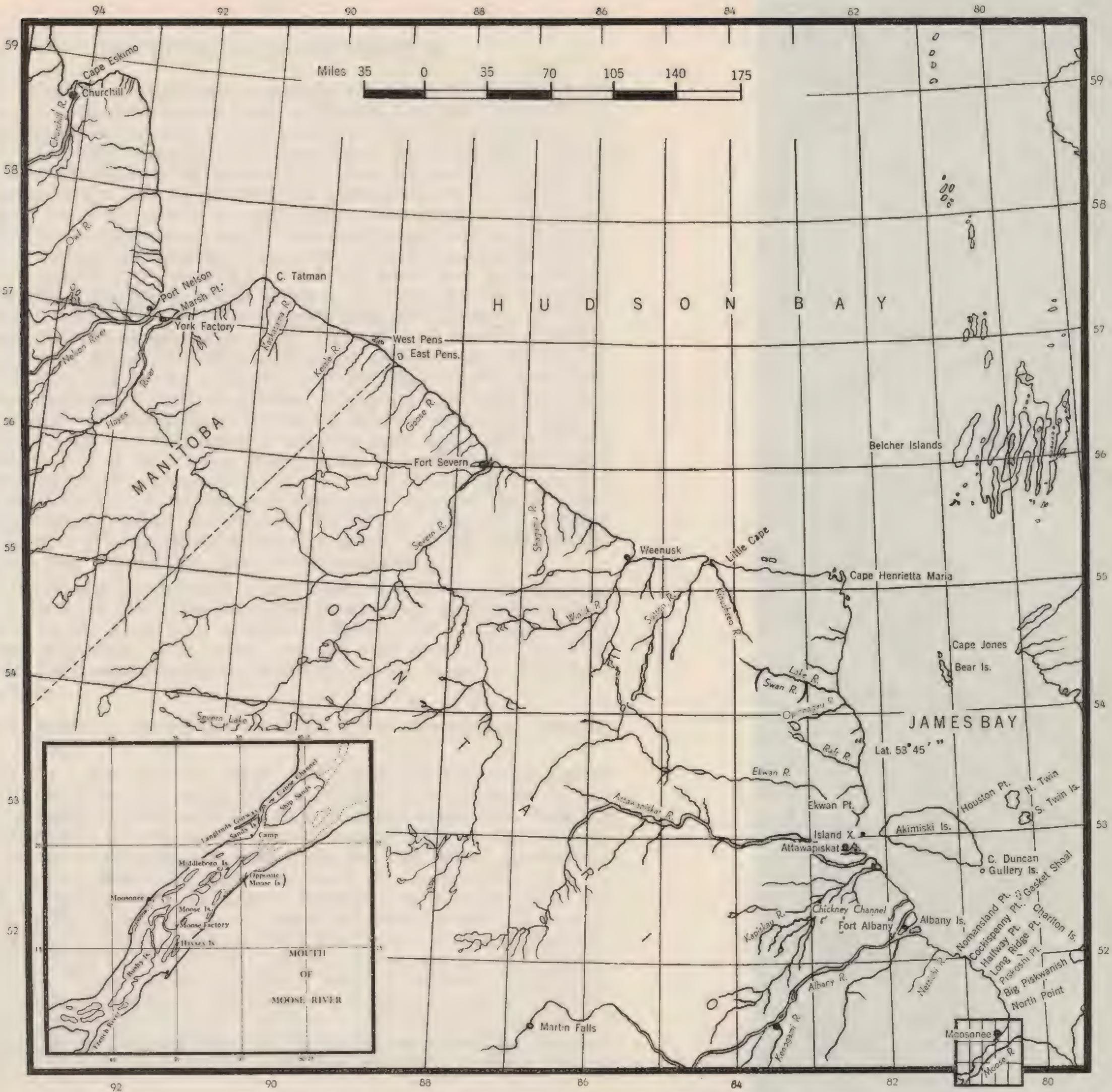


FIGURE 1. Map of the West James Bay and Southern Hudson Bay Coasts.

## DESCRIPTION OF THE REGION

The horizontally bedded palæozoic rocks which underlie the west coast of James Bay and the southern coast of Hudson Bay give these areas a characteristic low and usually straight coastline with wide tidal flats. The hills and ridges within sight of the coast are never more than 50 feet above high tide line; the land is often absolutely flat and frequently without even a beach to mark the limit of high tide. In a few places on the James Bay coast where there are gravel or sandy ridges, the spruce woods, which usually contain a small percentage of tamarack, come down to the shore, but more often they are separated from it by a strip of brackish marshland, followed by a band of willow and alder thickets which may extend inland for many miles. The best growth of spruce is generally near the rivers and small brooks, where the ground is comparatively well drained. Between the brooks, air photographs show large areas of open marsh or willow scrub. Between Moose River and latitude  $53^{\circ} 45'$ , the seaward edge of spruce is limited only by the unsuitability of the soil, but north from there it is also controlled by climatic conditions. A little north of Lake River, the tree line swings westward, although the coastal region is much better drained than farther south and does not approach the coast again before Sutton River, where it is 3 or 4 miles inland. Along the Hudson Bay coast there are more gravel and sand beaches, both raised and active, and, except perhaps in a few of the more marshy stretches, no continuous line of willow thicket between the coastal barrens and the spruce. The width of these barrens appears to be governed principally by the climatic effects of the cold Hudson Bay water rather than by soil conditions.

The following paragraphs give a brief description of our main collecting stations in 1947 and 1949. The dates are those between which observations were made on the birds; they correspond closely with the dates of our arrival and departure. The hours show the total time spent observing birds, excluding casual observations made during the course of other work near the tents.

*Moosonee. Manning, June 30-July 1, 1949, 6 hrs. Macpherson, June 25, July 1-2, 7 hrs.*

Some years ago, probably about 1931, when the railway was completed, an area of about a square mile was cleared for the Moosonee town-site. At present, the town occupies only one corner of this area, with the station at another corner and some warehouses in a third. A road runs around two sides, including the river bank, and the railway around the other two sides. Beside the river road there is a narrow strip of open meadow; the remainder of the clearing is covered with dense willow and alder thickets up to 15 feet high and rather less dense patches of tamarack and black spruce. Most of our collecting was done, and most of the birds were seen near the edge of this new growth, particularly on both sides of the railway in the corner by the station. South of Halfway Creek, which runs just south of the townsite, there are some Indian dwellings with a little cleared land among patches of tall willow. I spent about an hour in this area. The birds there proved to be about the same as in the town clearing. The main woods at Moosonee were only entered once for about half an

hour, and during that time no birds were seen. Our population records for Moosonee must therefore be considered very local, although the same species would no doubt be found in small natural clearings in the area, probably in reduced numbers.

*Haysey Island. June 27, 1949, Manning 1½ hrs., Macpherson, 2½ hrs.*

Haysey Island has the richest flora of the Moose River estuary.<sup>1</sup> It includes white spruce, balsam poplar, white birch, and trembling aspen. In most places there is a dense undergrowth. The ground is fairly dry, and around much of the shore there is a 10- to 20-foot cut bank of dry sand and silt with underlying clay. Macpherson walked half-way round the shore of the island.

*Middleboro Island. June 23, 1949, Manning 1 hr., Macpherson, 1 hr.*

The part (southwest end) of Middleboro Island visited consisted of fairly dry ground with patches of marshy ground and pools of standing water among the dense undergrowth and deadfalls. The larger trees were white spruce and balsam poplar. Birds were very scarce.

*Opposite Middleboro Island. June 23, 1949, Manning, 2 hrs.,  
Macpherson, 1½ hrs.*

The region thus designated in my notes is on the southeast bank of Moose River opposite Middleboro Island. It is an area of moderately dry, rather dense white spruce forest, with occasional balsam poplars and balsam firs. During the last year or so, a strip, going a mile or more inland and about 300 yards wide through the centre of the best spruce growth, has been cut for lumber, leaving only the poplar and a few old or young spruce still standing. This clearing was rather attractive to birds, and we spent most of our time in it.

*Sandy Island. May 28-June 2, 1947, Manning, 4 hrs.*

*June 15-29, 1949, Manning, 23 hrs., Macpherson, 20 hrs.  
Sept. 8-10, 1950, Manning, 4 hrs.*

Our camp on Sandy Island in 1947, 1949, and 1950 was just downstream from a sandy beach that was only partly covered at high tide. Behind this beach was a willow and alder thicket, where the willow, which predominated, grew to a maximum height of 25 feet. In mid-June, 1949, small pools of water still lay in places among the roots of the willow and alder, but the ground was considerably drier than it had been two or three weeks earlier in 1947. This willow and alder thicket, particularly near its edge beside the river, was a favourite habitat of the White-throated Sparrow, warblers, and flycatchers. It extended across Sandy Island to Langlands Gutway and beyond, but within it, a few hundred feet from the river on a slightly dryer patch of ground, was a grove of well-grown balsam poplar. There was considerable undergrowth within this grove, so that as a bird habitat it did not differ radically from the surrounding alder and willow. Langlands Gutway no longer entirely separates Sandy Island from the mainland, but in a series of old channels are strips of wet sedge separated by patches of dryer sedge and fairly open willow growth.

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<sup>1</sup> Throughout this paper, the estuary of a river is considered to be that part which is affected by tides.

A few hundred yards west of these open marsh strips and through a very dense willow and alder thicket about 8 feet high, in which practically nothing could be seen, is a stand of white spruce growing on comparatively dry ground. Between the river and the spruce grove was about 200 yards of very dense willow growing to a height of about 10 feet. Northeast of our camp along the river bank, low bushy willows were encroaching on a narrow strip of open meadow. Further inland, the willows increased in height to about 8 feet and became very thick, but among them were patches of sedge meadow and at least one small cattail swamp. In the open areas near the river, sparrows, particularly Song Sparrows, predominated; Wilson's Snipe could usually be seen in the air, and an occasional owl or hawk would fly over.

Included in the Sandy Island records are the birds seen on June 21, 1949, when I visited the tall willow and alder thickets, open willow meadow, and a small cattail marsh just west of Langlands Gutway. The approximate times spent by me in the different habitats are as follows: willow and alder within 200 yards of the river, 6 hrs. (1949), 1 hr. (1950); poplar grove, 1 hr. (1947),  $4\frac{1}{2}$  hrs. (1949); open sedge meadows, 1 hr. (1947),  $2\frac{1}{2}$  hrs. (1949); 2 hrs. (1950); inland willow and alder thicket, 1 hr. (1947), 4 hrs. (1949); spruce stand, 1 hr. (1947), 4 hrs. (1949); bush willow and meadow near the river northeast of our camp, 2 hrs. (1949), 1 hr. (1950). Macpherson did most of his observing in the bush willows and meadow, low dense willow thickets and open sedge meadows to the northeast of our camp. His records therefore show fewer warblers and more sparrows than mine.

*Ship Sands. Manning, May 31, 1947,  $3\frac{1}{2}$  hrs.*

*Manning, June 17, 1949, 5 hrs.*

*Macpherson, June 17-18, 9 hrs.*

*Manning, Sept. 9, 11, 1950, 9 hrs.*

The seaward third of Ship Sands consists of coastal barrens with occasional patches of willow, usually growing near the head of the small stagnant creeks. A considerable part of these barrens is quite dry and sandy. Another third of the island is covered by a fairly dense growth of tall willow and alder, similar to that on Sandy Island, with a few groves of small balsam poplar and one of two spruce trees. Between the dense willow and the coastal barrens, as well as around parts of the south shore, there is a varying width of bush willow and patches of sedge meadow more or less surrounded by the willow. The bush willow areas and meadows and willow thickets are much wetter underfoot than are most of the barrens. In 1947 I was mostly on the seaward part of the barrens, where there were hundreds of migrant shore birds, geese, and ducks, and I spent only about an hour near the small patches of willow on the landward barrens and half an hour at the edge of the main willow thicket. In 1949 Macpherson and I did most of our observing on the landward half of the barrens, although we visited for short periods both the edge of the main willow thicket and the seaward barrens. These last were at that season almost devoid of bird life.

*North Point. Manning, June 2-6, 1947, 11½ hrs.*

At North Point, a group of gravel ridges rising about 6 feet above the flat surrounding marsh extend for half a mile along the shore and form the first reasonable camp-site north of Moose River. Among these ridges, long, dry grass and heaps of old driftwood give good ground cover. Along the rest of the high tide line, the mud flats end in short-grass salt marsh followed by half a mile of long-grass, slightly brackish, marsh which surrounds the gravel ridges. To landward of this marsh, which in early June could hardly be crossed without getting wet above knee boots, lay very wet willow and alder thickets, more grass marshes, and extensive cattail swamps. Patches of spruce and tamarack could be seen 3 to 4 miles away. I spent 3 hours on the long-grass marshland, 2 hours on the gravel ridges, 2½ hours at the edge of the willow and alder thicket, and 4 hours in these thickets and cattail swamps.

*Big Piskwanish. Manning, June 9-12, 1947, 11 hrs.*

At Big Piskwanish, a narrow system of gravel ridges edge the tidal mud flats. Behind the ridges lies a mile of flat grassland which, when we were there, was almost covered by standing water. Between this marshland and the comparatively dry spruce forest is the usual willow and alder thicket, which here is 100 to 300 yards wide. I spent 7 hours in the grass marshes and gravel ridges, including about 3 hours in the small clumps of scrub which grow on them, 2 hours in the main spruce woods, and 2 hours in the willow and alder thicket.

*Long Ridge Point. Manning, June 14-16, 1947, 11 hrs.*

Long Ridge Point, which is composed chiefly of gravel, small stones, and boulders, rises 12 or 15 feet above high tide level and juts out to sea for about 1¼ miles. A mile inland, the ridge ends suddenly and is surrounded by the grass marshes which lie along the shore to the north and south of it. Inside this grassland, there is the usual strip of very wet alder and willow, followed by patches of scrubby spruce and tamarack which grow on almost equally wet ground. Dwarf birch grows profusely along the ridge, and there are two little groups of small poplar and about a dozen little spruce trees attempting colonization. The 11 hours spent collecting here were divided as follows: 3 hours near the shore, 2 hours on the grass marshes, 3 hours amongst the dwarf birch and other scrub which grows along the ridge, 2 hours in the willow and alder thicket at the edge of the bush, and 1 hour amongst some thick, stunted spruce growing on very wet ground.

*Albany River. Manning, June 19, 1947, 2 hrs.*

I spent 2 hours in and around a well-grown, tall willow thicket surrounded by meadow on the north side of the river mouth. On this date, the leaves on the willow were only just showing green.

*Attawapiskat River. Manning, June 21-22, 1947, 2 hrs. July 3-6, 1947, 5 hrs.*

Our camp was on the north bank at the mouth of the river where the tall willow and alder thicket began to thin out and give place to scrub willow and open meadow. Almost the whole 7 hours were spent in the willow and alder thickets. After two hot days, the leaves were a third out on June 22; when we returned on July 3, they were completely out.

*Island X. Manning, July 3, 1947, 3 hrs.*

This island is about a quarter mile square and lies in Akimiski Strait about 2 miles from the mainland. The greater part of it consists of dry, gravelly ground with grass and flowering plants, two small patches of deciduous scrub, and one little spruce tree.

*Cape Duncan. Manning, June 24-27, 1947, 9 hrs.*

Cape Duncan is situated on a peninsula or tidal island 2 or 3 square miles in area. Our camp was at the extreme point, and my bird observations were made along the east shore where 100 yards of short grass and mud flats separated the 10-foot high coarse gravel beach from the water at neap tides. Inland from the 10-foot beach, much of the land is lower; there are willow and alder thickets, grass marshes, dry, fairly open areas of willow and dwarf birch with a few small, scattered white spruce, occasional patches of white spruce, and at least one little group of poplar. All growth is rather stunted and has a more arctic appearance than any on the mainland coast south of Raft River. I spent 4 hours amongst the willow thickets, 1 hour in open dwarf birch country, 2 hours in a small clump of white spruce growing on dry ground, and 2 hours along the shore, where at this season, there were very few birds.

*Gullery Island. Manning, July 11, 1949, 1 hr.*

This is the outer island of a few small islands and shoals off Cape Duncan. Its dry, gravel and pebble surface is well covered with flowering plants and grass, but trees are absent.

*Houston Point. Manning, June 30-July 1, 1947, 1 hr.*

This is a narrow, barren, gravel and pebble ridge rising 8 to 10 feet above the mud flats on its eastern side, and the tidal grass flats on the west. We did not go more than a few hundred yards from the camp.

*Raft River. Manning, July 7-13, 1947, 22 hrs.*

The Raft River is about 150 feet across and has an average depth of 2 feet. A few hundred yards away from the river, the shoreline consists of the usual mud and short-grass tidal flats. This is followed by meadow mixed with patches of dwarf birch and willow about a foot high. A thousand feet inland, there are patches of willow 4 feet high, and occasional small spruce. Half a mile inland, there are good-sized patches of spruce, and poplar grows along the river. A mile from the coast, the forest consists chiefly of spruce among which are well-grown trees up to 2 feet in diameter. At this distance inland, reindeer moss and a little Labrador tea grow on some dry ridges. As usual along this coast, about 5 per cent of the coniferous trees are tamarack, but they are always smaller than the spruce. I spent 2 hours on the barrens and along the shore, 6 hours among the willow thickets and poplar groves, and 14 hours in the spruce. Birds were easier to see and appeared more numerous in the open spruce woods than in the deciduous thickets. We had two hot and sultry days when few birds were seen or heard.

*Latitude 53° 45'. Manning, July 14, 1947, 2 hrs.*

A sand and gravel beach forms the spring high tide boundary on the landward side of extensive tidal flats. Inland, the land is quite flat except

for some old, dry, gravelly beaches which rise about 5 feet above their surroundings and run more or less parallel to the shore. Willow 2 or 3 feet high grows about a quarter mile back from the shore, and a quarter mile farther inland there are scattered spruce trees on the dry ridges. I walked inland to these. This is the most southerly place along the west James Bay coast at which the seaward extension of the spruce is governed by climatic conditions rather than unsuitability of soil (too salt and wet).

*Lake River. Manning, July 15-18, 1947, 7 hrs.*

Lake River is several hundred feet wide at its mouth, but very shallow and filled with boulders. The mud flats are bordered by about a mile of grassland which gives place to increasingly large patches of dwarf willow and birch, the latter growing particularly well on some dry, gravel ridges about a mile north of the river. An occasional small spruce also grows on these ridges, but the main spruce forest only begins about 3 miles inland, and even there the trees are sparse and poorly grown, with considerable willow scrub in between them. North of Lake River, the tree line swings inland and is not again visible from the coast east of Sutton River. All my time was spent in the grassland and among the dwarf birch and willow. McKenzie, however, spent a short time in a patch of spruce.

*Cape Henrietta Maria. Manning, July 19-26, 1947, 16 hrs.*

Cape Henrietta Maria is on a peninsula about 8 miles long and formed by a shallow bay on its west side. The first mile southwards from the cape consists of bare, disintegrated limestone ridges. South of that, a tidal bay with muddy bottom almost cuts through the peninsula from the east. Our camp was on the southeast point of this bay. South of our camp, disintegrated limestone ridges with lakes and some grassland compose the east coast for half a mile inland. There is then an area of grassland (tussock tundra) with numerous lakes seldom more than 2 feet deep and a few small limestone ridges. On the west coast of the peninsula, the short-grass tidal border terminates in mud flats which are covered for half a mile or so at low tide. I spent 3 hours along this flat shore, and the other 13 hours inland. Only 3 or 4 bushes of dwarf willow were seen, and these were not more than 2 feet high.

*Little Cape. Manning, July 27-August 3, 1947, 13 hrs.*

Our camp at Little Cape was on a promontory about 6 square miles in area at the east side of the estuary of Sutton and Kinushseo rivers. About a third of this promontory consists of dry and gravelly ridges up to 30 feet high, covered with short vegetation, grass, and mosses; the remainder is low, flat marshland. A river beach of boulders and gravel runs along the estuary side of the promontory for a quarter mile and then turns away from the river, leaving 300 or 400 yards of short-grass flats. Dwarf birch and willow, 2 or 3 feet high, grow under the shelter of the ridge, and higher willows surround a small lake nearby. There are two or three very stunted spruce trees on the promontory, but the proper tree line is nearest on the opposite side of the river, 2 or 3 miles inland. I spent 7 hours on or near the dry ridges, particularly among the patches of scrub, 3 hours in the long-grass marshes, and 3 hours on the short-grass flats by the river.

*Shagamu River. Manning, August 6-14, 1947, 18 hrs.*

Our camp was on a sandy beach on the east side of Shagamu River, which is a little bigger than Raft River. The surrounding country is fairly dry, and numerous raised sand beaches run approximately parallel to the active beach. Inside the active beaches there are patches of tidal mud flats. Dikes filled with nearly stagnant water run inland at least 2 miles to the edge of the spruce. A few hundred yards inland from the edge of the tide flats, patches of dwarf willow grow 4 to 6 feet high. The spruce grows chiefly on the ridges, leaving wide expanses of grass marsh and sometimes dwarf willow in between. Up to 4 miles from the shore, the trees are much smaller than they were at Raft River. On the west bank of the river, there is a balsam poplar grove just inside the limit of spruce. There is said to be no other poplar between Winisk and Severn rivers. I spent 7 hours along or near the shore, 4 hours in the willow scrub and long grass between the shore and the spruce, and 7 hours in the spruce.

*Cape Tatnam. Manning, August 21-28, 15 hrs.*

At Cape Tatnam we had two camps about 4 miles apart. At the eastern camp, which was near the tip of the rounded cape, the tree line was about 2 miles inland; at the western camp, about one mile. Otherwise the country was similar at the two places. Grass marshes and small, shallow lakes lay between old beaches of sand and gravel. The beaches nearest the sea were bare or nearly bare; then there were some on which long grass grew, while those farther inland were covered by willow and birch and gooseberry scrub almost a foot high. Inside the bush, the spruce trees grew chiefly on the ridges, and the areas between them were occupied by meadow and scrub willow. I saw no tamarack, and the spruce to half a mile within the edge of the bush was small and poorly grown. I spent 9 hours on the seaward side of the willow scrub, 3 hours in the scrub, and 3 hours in the spruce and meadows within the tree limit.

## SYSTEMATIC LIST

Owing to the short periods spent at our collecting stations and to the four distinct habitats (coast, barrens, deciduous scrub, spruce) which occur at most of them, no estimate of the population per square mile has been attempted. In cases where a moderately common species was more or less confined to one habitat, the hours spent observing in that habitat are listed, but some species overlap the obvious ecological divisions, and in that case, the hours represent the time spent in the area in which the species in question was found or expected, and they may therefore not quite correspond from species to species, although referred to under one of the above-mentioned general habitats. The dates in the tables under species heading are those between which that species was seen.

The numerical sight records given in the tables do not include individuals seen casually round the tent or reported by others in the party unless this is definitely stated. Specimens collected include those obtained by my assistants.

*Hypothetical Species.* In most cases, species which are included in the following list on the basis of sight records are considered hypothetical, unless they have been observed on several occasions by independent parties.

I have also included in the hypothetical category some of the larger birds which are listed only on the authority of specimens taken by Drexler, McKenzie, and Haydon, at Moose Factory, and Bell at York Factory, since it seems possible that some of their specimens may have been taken by Indians or others outside the narrow limits of the area covered in this paper. Care is necessary in accepting some of Spreadborough's records (Macoun & Macoun, 1909) as there are clearly some errors, probably owing to faulty transcription.

I have tried to put the records, including my own, in geographical sequence from the Moose to the Nelson River, but this has not always been practicable owing to the repetition it would sometimes involve.

#### **Common Loon, *Gavia immer immer* (Brünnich)**

Common Loons are moderately numerous along the greater part of both coasts, particularly near the mouths of large rivers and in the vicinity of long points, reefs, and off-shore shoals. Most of them probably nest inland by the larger lakes where they were frequently seen by Preble (1902, p. 75) on his journey to York Factory. Hutchins (Thompson, 1891, p. 468) also considered them inland birds.

Haydon collected a Common Loon at Moose Factory in 1881 (Preble, 1902, p. 76), Stirrett saw one at the mouth of Moose River on October 19, 1948, and Kelsall and Lemicux saw four at Big Piskwanish on June 25, 1947. Williams (1921) saw two in the estuary of Albany River on August 18, 1920. Murray (1859, p. 231) received one from Severn House, and Bell (1884) obtained one at York Factory. In 1949, I heard a Common Loon at Sandy Island on June 15, and saw one on the river opposite that island on June 22. In 1947, five unidentified loons were seen flying over Moose River near Ship Sands on May 31. Loons were not observed again until a little north of Big Piskwanish, where they were numerous on the sea, and in an hour's travel inside the ice just south of Long Ridge Point on June 13, forty-two were counted. Five of these were identified as Common Loons. Between Long Ridge Point and Cape Duncan, practically no loons were seen. At Cape Duncan, six unidentified loons were seen flying over between June 24 and 27. Off the east coast of Akimiski Island, June 28-29, about twenty loons were seen, two of which (one collected) were Common Loons. All water birds were scarce along the north coast of Akimiski Island on July 1 and 2. Between Attawapiskat and Raft Rivers, twenty loons were seen in the 9 hours' journey on July 7. Three of these were identified as Common Loons. No loons were seen at Raft River, and only one Common and one unidentified loon at Lake River. Most of those seen south of the Cape Henrietta Maria barrens were probably migrant non-breeding birds. At Cape Henrietta Maria (July 20-25), five of the twenty loons seen were Common Loons, and ten were unidentified. None of the eight loons seen on July 26-27 between Cape Henrietta Maria and Little Cape could be identified to species. Six Common Loons and twelve unidentified loons were seen while travelling by canoe between Little Cape and Severn River on August 3, 6, and 15. Between the latter place and York Factory, August 16-29, only about twelve loons were seen and none identified.

The measurements of the female collected at sea off Cape Duncan are: wing chord, 341 mm., culmen, 75 mm. This wing measurement is only

4 mm. below the average given by Rand (1947) for *G. i. immer*, and if, contrary to his recommendation, subspecies of the Common Loon are recognized, it would be referable to that race.

**Pacific Loon, *Gavia arctica pacifica* (Lawrence)**

The Pacific Loon breeds on the coastal barrens at Little Cape and presumably also at Cape Henrietta Maria. Murray (1859, p. 231) received a specimen from Severn House and a specimen collected by Matthews at York Factory in 1886 was later presented to the Department of Marine and Fisheries (Nat. Mus. Cat.).

In 1947, I identified two Pacific Loons on June 13 south of Long Ridge Point (See Common Loon), two on the east coast of Akimiski Island between June 28 and 29, and five at Cape Henrietta Maria between July 20 and 25. At Little Cape on July 29, MacKenzie found two downy young about a week old. They and their parents were collected, and another apparent pair was seen the same day. Next day, a male was collected. A total of ten Pacific Loons were seen from our canoe between Little Cape and Severn River on August 3, 6, and 15.

**Red-throated Loon, *Gavia stellata* (Pontoppidan)**

In an hour's canoe travel just south of Long Ridge Point on June 13, 1947 (See Common Loon), I identified seven Red-throated Loons, and at Long Ridge Point, another four (one collected) between June 14 and 16; two were seen on the east coast of Akimiski Island between June 28 and 29, four between the Attawapiskat and Raft Rivers on July 7, and eight while travelling between Little Cape and Severn River on August 3, 6, and 15.

**Holboell's Grebe, *Colymbus grisegena holböllii* (Reinhardt)**

Waller collected a specimen of Holboell's Grebe at Moose Factory in 1928 (Baillie & Harrington, n.d.). Macoun and Macoun (1909, p. 2) say, "This bird arrived in Wales sound, Hudson strait, about June 20, 1885, and was often seen during the summer. (Payne.) Common in northern part of James Bay. (Spreadborough)". The statement attributed to Payne is made by him (1887, p. 78) under "*Red Throated Diver (Colymbus Septentrionalis L.)*", and it is very probable that Spreadborough's observation also referred to the Red-throated Loon.

**Horned Grebe, *Colymbus auritus* Linnaeus**

Horned Grebes appear to be fairly common near the large rivers of both coasts. Kelsall and Lemieux saw one in the Moose River estuary region on June 6, 1947, and on September 22, 1940, one was seen in the mouth of the Albany River (Lewis & Peters 1941). Forster (1772, p. 420) mentions a specimen from Severn River, and Baird (1858, p. 896) lists one in the Smithsonian collection taken by Isbister at Nelson River. Bell (1882) obtained specimens from Fort Severn and York Factory. Markham collected two in full breeding plumage about August 6, 1886, at York Factory (Fielden, 1887). Rae's specimen, listed by Sharpe and Ogilvie-Grant (1898, p. 531) as from Repulse Bay, may have been taken at York Factory or further inland up Hayes River.

**Pied-billed Grebe, *Podilymbus podiceps podiceps* (Linnaeus)**

Waller collected a female Pied-billed Grebe at Moose Factory on May 23, 1930 (Baillie & Harrington, n.d.). Matthews gave Bell (1884) a specimen from York Factory, and on August 30, 1914, Comeau (1915) saw two on the Partridge River<sup>1</sup> where he thought they bred.

\* **White Pelican, *Pelecanus erythrorhynchos* Gmelin**

The first published reference to this pelican is by Ellis (1748, p. 38), who wintered at York Factory in 1746-47. Later, Forster (1772, p. 419) listed a specimen from there as a variety of *P. onocrotalus*. The Rough-billed Pelican described by Latham (1785, pp. 586-587) from two specimens from Hudson Bay and a third from New York formed the basis of Gmelin's description of *Pelecanus erythrorhynchos* (A.O.U., 1931). Hearne (Tyrrell, 1911, p. 397) says that Pelicans are common inland but never appear on the coast, and it is quite possible that both Forster's and Latham's specimens were killed inland. The origin of the specimen recorded by Murray (1859, p. 231) from Hudson Bay is also doubtful according to Blakiston (1863, p. 151).

\* **Gannet, *Morus bassanus* (Linnaeus)**

Three or four birds seen diving from the wing at the mouth of Shagamu River on August 10, 11, and 12, were identified in the field and in my preliminary report (Manning, 1948) as Gannets. I have since had qualms as to the correctness of the identification. It is unfortunate that they were too wild to allow approach within gunshot.

**Double-crested Cormorant, *Phalacrocorax auritus auritus* (Lesson)**

Hugh Conn (Norris-Elye, 1933, 1949) collected a Double-crested Cormorant at Fort Severn, where he said it had never been seen before. The Double-crested Cormorant nests in southeastern James Bay (Baillie & Harrington, n.d.).

**Great Blue Heron, *Ardea herodias herodias* Linnaeus**

A Great Blue Heron collected at Moose Factory by James McKenzie on August 29, 1860 (Turner, 1886, p. 245) is recorded in the catalogue of the United States National Museum but cannot now be found (Preble, 1902, p. 92). Hewitt saw one at Ship Sands on September 25, 1947. On August 19, 1914, Comeau (1945) saw one or more on Hayes Peninsula<sup>2</sup> and on South Seal Creek. The "Ash-coloured Heron" described and figured by Edwards (1750, p. 135) from a specimen brought from Hudson Bay by Isham, formed the basis of Linnaeus's description of *Ardea Herodias* (A.O.U., 1931).

**American Bittern, *Botaurus lentiginosus* (Montagu)**

The American Bittern occurs and probably breeds all along this coast from Moose River to York Factory, with the exception of the barren area between Lake River and Little Cape. Drexler found it breeding at Moose Factory, where he obtained specimens on August 29, 186- (Turner 1886,

<sup>1</sup> The exact location of this river is unknown.

<sup>2</sup> It is probable that this is the peninsula between the Hayes and Nelson Rivers and that South Seal Creek is on the south side of Nelson River.

p. 245). One was recorded at Sandy Island on July 29, 1947, by Kelsall and Lemieux, and one at Ship Sands by Hewitt on September 23, 1947, and by Stirrett on October 2, 1948. Kelsall and Lemieux also recorded the American Bittern at Albany on June 27, 1947. A specimen from Severn River is described by Forster (1772, p. 410), who says that it arrives there at the latter end of May and nests amongst the swamps. Preble (1902, p. 91) started an American Bittern from the marsh at Beacon Point near York Factory on July 13, 1900. At our Sandy Island camp during the latter half of June, 1949, we frequently heard the boom of an American Bittern in the willow thickets across the river. While walking through some cattail marshes at North Point on June 4, 1947, I flushed twelve American Bitterns, or about one every 400 yards. The following table gives the hours spent in the wet marsh or thickets where the bitterns were likely to be found:

Place	Date	Hours	Number seen	Number collected
Sandy Island.....	June 1, 1947	1½	1	-
(Maepherson).....	June 15, 1949	10	1	-
North Point.....	June 3, 4, 1947	4	13	3
Big Piskwanish.....	June 11, 1947	2	2	-
Raft River.....	July 9, 1947	2	1	-
Lake River (Croal).....	July 17, 1947	-	1	-
Shagamu River.....	Aug. 10, 1947	2	2	-
Cape Tatnam.....	Aug. 26, 1947	2	2	1

\* **Least Bittern**, *Ixobrychus exilis exilis* (Gmelin)

Bell (1880, 1882) apparently obtained a specimen from York Factory in 1878 or 1879, but possibly it had been collected inland or there has been a mistake in the identification.

\* **Whistling Swan**, *Cygnus columbianus* (Ord)

J. S. Allen, Indian agent at Moose Factory, told Stirrett that he had seen three swans in James Bay some years ago, but that they were so rare that the Indians did not know what they were. (See also under Trumpeter Swan.)

\* **Trumpeter Swan**, *Cygnus buccinator* Richardson

Speaking of the Trumpeter Swan, Richardson says, "This is the most common Swan in the interior of the fur-countries . . . It is to the Trumpeter that the bulk of the Swan-skins imported by the Hudson's Bay Company belong." (Swainson & Richardson, 1931, p. 464) Hearne (Tyrrell, 1911, p. 399) says that both the Trumpeter and the Whistling Swan visit Hudson Bay, but that the latter is more frequent near the sea coast. Isham (Rich, 1949, p. 127) also speaks of swans "great and

small". Comeau (1915) saw a swan which he thought to be of this species near Partridge River<sup>1</sup> during a heavy gale on August 31, 1914. The type specimen for this species was "killed at Hudson's Bay" (Swainson & Richardson, 1831, p. 464) and may have been shipped from York Factory, but quite possibly it was killed inland.

**Ungava Canada Goose, *Branta canadensis interior* Todd**

Barnston (1861, p. 343) considered that 17,000 to 20,000 geese of all species, excluding American Brant, were killed by the Albany Indians in the autumn, and 10,000 or more in the spring. He estimated that the Moose Factory Indians killed 10,000, the Indians of the Severn coast 10,000, and the York Factory and Churchill Indians, 10,000. J. R. Clare (Blakiston, 1863, p. 138) reported the average annual number of geese expended at York Factory over a period of 5 years (about 1860) to be 5,857, of which Blakiston says nearly half were shipped from Fort Severn. Probably most of the geese above referred to were Lesser Snow Geese and Blue Geese. Hanson and Smith (1950, p. 141) calculated the 1947 Canada Goose bag to be at Albany (including Kapiskau and Ghost River outposts) 1,110; at Attawapiskat (including Lake River outpost and Akimiski Island) 2,090; at Weenusk, 627; at Fort Severn, 799; while the 1946 figures showed a total smaller by about 750 for the whole area. They give reasons which suggest that the actual bag may be 10 to 15 per cent less than their calculated bag. By far the greater number are killed in April and May. (Hanson & Smith, 1950, p. 142.)

Stirrett estimated that the Canada Goose formed only 2 per cent of the total number of autumn migrant geese between Moose River and Albany. Residents told him that north of Attawapiskat River it was more plentiful. Hanson and Smith (1950, p. 140), however, consider that the 'wavies' outnumber the Canada Geese by many hundreds to one.

The chief nesting grounds of the Canada Goose are probably on the barren or near-barren marshes some miles inland,<sup>2</sup> and during the breeding season it is seldom seen on the coast (Cf. Hanson & Smith, 1950, p. 99). Rae (1888a, p. 137) says that the Canada Goose arrives at Moose Factory with great regularity on April 23, and at York Factory about a week later. The average of eighteen dates between 1884 and 1920 given by Hanson and Smith (1950, p. 112) for the first goose observed or killed at Fort Albany is April 18, the earliest date being April 6, and the latest, May 1.

In 1947, the only Canada Goose which we saw in Moose River area was collected on June 1. It was very tame and proved to be extremely thin. In the same year, Hewitt, Kelsall, and Lemieux reported the last spring migrants at Moose River on June 8, and the earliest arrival of large flocks of autumn migrants on September 24. On September 25, 1940, Lewis and Peters (1941) recorded small numbers of Canada Geese at Ship Sands. In 1949, Macpherson saw a flock of six at Sandy Island on June 16, and on June 26, a flock of five flew over our tent. Four Canada Geese flew over Sandy Island on September 19, 1950. On June 25, 1947, Kelsall and Lemieux saw two Canada Geese at Big Piskwanish. In 1920 Williams (1921) saw twelve on August 18, 19, and 26, at the estuary of Albany

<sup>1</sup> The exact location of this river is unknown.

<sup>2</sup> Details of the probable breeding areas are given by Hanson & Smith (1950, pp. 92-103) and this work should be consulted for a full account of the Canada Geese of the Mississippi Flyaway.

River, and another flock at Fort Albany on August 21. Lewis and Peters (1941) recorded the Canada Goose at the mouth of Attawapiskat River on September 17, 1940, and saw small numbers at Akimiski Island on September 18 and 19, and at Albany River on September 22. At the southeast point of Akimiski Island, I saw about fifty Canada Geese between June 24 and 27, 1947. They were usually feeding near the shore or flying over in flocks of eight to ten. A few Canada Geese were seen on June 28 while we were going up the east coast of Akimiski Island. According to the Indians at Attawapiskat, the Canada Goose breeds on the inland marshes of the northern part of Akimiski Island (Cf. Hanson & Smith 1950, p. 101), and Graham (Forster, 1772, p. 415) recorded it breeding about Severn River. Comeau (1915), who was in the region in late August and September, 1914, found Canada Geese extremely abundant along the shore and on the shoals between Cape Tatnam and Owl River. On August 23, 1947, at Cape Tatnam, I saw a flock of about thirty Canada Geese flying west along the coast. Next day, another, or perhaps the same flock, was seen. On August 27, the regular migration had begun, and in 4 hours, 200 Canada Geese in flocks of from twenty to forty passed along the shore near Cape Tatnam, flying east. Next day, Canada Geese were still passing in about the same numbers (See under Hutchins's Goose). There was a strong northwest wind on both days.

Todd (1938b) includes the south coast of James Bay and the Twin Islands in the breeding range of *B.c. interior*. Our specimen (wing chord, 486 mm.; culmen, 58 mm.; tarsus, 95 mm.) is rather larger than any of this race measured by Aldrich (1946), but its relatively dark underparts distinguish it from *B.c. canadensis*.

#### **Hutchin's Goose, *Branta canadensis hutchinsii* (Richardson)**

Hutchins's Goose does not normally nest in these regions, but it is probably a regular migrant along both coasts, although the only recent record is a specimen (culmen, 1·37 in.; wing, 16·25 in.; tarsus, 2·62 in.; mid toe, 3·00 in.) which was collected by Hugh Conn at Fort Severn, probably in the autumn of 1932 (Norris-Elye, 1933). Barnston (1861, p. 340) says that considerable numbers of Hutchins's geese were shot at Fort Albany and elsewhere along the coasts of James and Hudson Bays. Graham (Forster, 1772, p. 414) was familiar with it at Fort Severn, and the measurements of the specimen received by Murray (1859, pp. 228-229) from Severn House agree with those of this race.

#### **American Brant, *Branta bernicla hrota* (Müller)**

The American Brant may occasionally breed on the west James Bay and southern Hudson Bay coasts, but this has not been definitely established. As a migrant, it is common only locally and is usually to be found out to sea and in the vicinity of shoals (Cf. Barnston, 1861, p. 340). On May 27, 1947, Hewitt saw forty-five American Brant on Ship Sands, and Kelsall and Lemieux also saw forty-five there on June 2. On May 31, (1947) I saw about fifty Brant at Ship Sands Island, and next day one was collected near the mouth of Moose River. Lewis and Peters (1941; cf. Lewis 1937, p. 83) were told by a former resident of Akimiski Island that thousands of Brant formerly gathered in the shallow water at the southeast end of that island to feed and rest during migration. Apparently

this is still a favourite place, and on June 26, 1947, I saw six flying over Cape Duncan. Next day there were at least fifty, probably yearling or other non-breeding birds, feeding on the sea at that point. On June 28, while going up the east coast of Akimiski Island, we saw about fifteen after which they were not seen again during the summer. Comeau (1915) found Brant quite numerous along the western shore of Hudson Bay, presumably between Cape Tatnam and Owl River, in late August or September, 1914. He saw some young which he thought had been bred in the area, but there are no other breeding records, and an American Brant shot during Bell's visit to York Factory was considered as quite a curiosity (Bell, 1882).

Reports from employees of the Hudson's Bay Company indicate that migrating Brant pass Cape Henrietta Maria on the way to Akimiski Island and Charlton Island where about 2,000 arrive every year (Lewis, 1937, p. 86).

\***White-fronted Goose, *Anser albifrons* subsp.**

Barnston (1861, p. 342) says that the White-fronted Goose was rare in the southern part of Hudson Bay, less rare at York Factory, and "frequent enough" at Churchill. Richardson (Swainson & Richardson, 1831, p. 466) says that it was "not common" on the coast of Hudson Bay.

**Lesser Snow Goose, *Chen hyperborea hyperborea* (Pallas)**  
**Blue Goose, *Chen caerulescens* (Linnaeus)**

Large numbers of mixed flocks of Lesser Snow and Blue geese arrive in James Bay between April 25 and 30, and disperse along the coast from Moose River to Winisk River. Most of them probably leave the former region in mid-May. In the autumn, large flocks again occupy this area, arriving in the early half of September and gradually moving southwards to the bottom of James Bay, where they congregate in great numbers before leaving in late October.<sup>1</sup> Our observations suggest that both species may occasionally nest at Cape Henrietta Maria, where the terrain is very similar to that on the Southampton and Baffin Island nesting grounds. On May 31, 1947, we saw three large mixed flocks totalling about 300 Snow and 400 Blue geese feeding on the grass flats on the northern side of Ship Sands, and in 9 hours on September 9 and 11, 1950, I saw there about 600 Snow and Blue geese in mixed flocks of five to eighty individuals. On June 8, 1947, Kelsall and Lemieux saw thirty Snow Geese there, and on June 27, they saw two Blue Geese at Albany. On a flight from Moose Factory to Attawapiskat on October 3, 1948, Kelsall and Stirrett estimated that they passed over 40,000 geese, most of which were concentrated in large flocks in the estuaries of the larger rivers. Very few were seen up the rivers. That autumn the weather was exceptionally warm and fine, and the first definite movement of geese away from James Bay did not commence until October 17, when the small ponds and streams first began to freeze. On a flight from Fort Albany to Moose Factory on October 18, however, Kelsall and Stirrett saw only 2 small flocks of geese, although there were still large concentrations at the mouths of the rivers. Rae (1888a, p. 138; 1888b) says that although equal numbers of

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<sup>1</sup> Summarized from Soper (1942) who gives details that need not be repeated here.

Blue and Snow geese used to visit Moose Factory 50 years ago (*circa* 1840), no Blue Geese were then seen at Albany. At the time of his writing, however, the number of Blue Geese passing there about equalled the number of the Snow. If Rae's proportions are correct, this increase in the percentage of Blue Geese in James Bay has continued. Thus Hewitt considered that only 1 per cent of the flocks of waveys seen in Hudson Bay in 1947 were Snow Geese, while Stirrett estimated that 4 per cent of all the geese he saw between Attawapiskat and Rupert's House in the autumn of 1948 were Snow Geese and 94 per cent Blue Geese.

On July 19, 1947, about 25 miles south of Cape Henrietta Maria, we saw two Blue and two Lesser Snow Geese running along the shore ahead of the canoes at 5 or 6 miles an hour. After 3 or 4 miles, they took to the sea and were collected. All four were adult. Both Blue Geese were dark-breasted males; one Snow Goose was a male, and one a female. When we were leaving Cape Henrietta Maria on July 26, we encountered a mixed flightless flock of about twenty Blue and twenty Snow Geese swimming on the sea. One adult Lesser Snow Goose and three Blue Geese were collected. Of the Blue Geese, one was a light-breasted adult male, one was a dark-breasted adult male, and the third was a yearling with a soft skull, grey-tinged bill, and an exceptional amount of dark juvenile plumage on the neck and head. The right ovary of this bird was 21 mm., the largest ovum, 1 mm. An apparent left ovary 10 mm. long was also present, and attached to the tip of both ovaries were what appeared to be testes.

Forster (1772, p. 415) was told by Graham that the Blue Goose was a very common migrant along the Hudson Bay coast south of Severn River but very rare to the northward (Cf. Rich, 1949, pp. 120-121). The latter part of this statement at least is probably still true, although J. W. Anderson (Soper, 1942, p. 150) has seen large numbers of Blue and Snow geese migrating westward over Winisk River in the autumn. A Blue Goose skin from York Factory is preserved in the Manitoba Museum (Norris-Elye, 1933; Soper, 1942). A Blue Goose, banded on Southampton Island between August 2 and 12, 1934, was shot near York Factory at some date prior to 1940, and a Lesser Snow Goose, banded at the same time was recovered near the mouth of Trout [=Sutton] River on May 27, 1935 (Manning, 1942, p. 162). Bell (1880) says that the Lesser Snow Goose was an abundant migrant at York Factory both in spring and autumn. When we arrived there on August 29, 1947, the migration had not commenced.

The "Blue-winged Goose" described and figured by Edwards (1750, p. 152) from a specimen brought to England by Isham may have originated at York Factory. Edwards' plate formed the basis of Linnacus' description of *Anas cærulescens* (A.O.U., 1931).

#### **Common Mallard, *Anas platyrhynchos platyrhynchos* Linnaeus**

The Common Mallard probably nests in the inland marshes and by the small lakes and stagnant dikes among the willow scrub and thickets at the edge of the barrens. In James Bay it is rather scarce (Cf. Lewis & Peters, 1941), but toward Cape Tatnam it becomes fairly plentiful on the coastal barrens in the autumn. Specimens taken at Moosonee in 1881 are recorded in the United States National Museum catalogue (Preble,

1902, p. 83). On May 25, 1947, Hewitt saw one, and on June 13, Kelsall and Lemieux saw three Mallards near the estuary of Moose River. On Sandy Island on June 16, 1949, I shot a female with an incubating patch. Its behaviour indicated that it was nesting among long grass and sedge under some scattered willows, but the nest could not be found. On July 18, 1947, Queneau and Hanson (Hanson, Rogers & Rogers, 1949, p. 198) saw forty Mallards during a flight along the coastal marshes between Fort Severn and Attawapiskat. Murray (1859, p. 229) obtained a specimen from Severn House, and Hugh Conn (Norris-Elye, 1933) one from Fort Severn, where he considered it quite uncommon. At Cape Tatnam on August 22, 1947, I saw thirty ducks, all of which were thought to belong to this species, and on the 24th I collected a juvenile female from a flock of five. It is possible that a few of the seventy Black Ducks recorded below at Shagamu River may have been Mallards. In early July, 1900, Preble (1902, p. 82) observed Mallards several times between Oxford House and York Factory. He also saw one at Beacon Point on July 13.

The female collected at Sandy Island differs from comparable western material in the National Museum in having paler and more greyish edgings to the feathers of the back, and greyer wing coverts. Indeed, the latter are as grey as those of two Greenland specimens of *A. p. comboschas*. It can be easily distinguished, however, from these by the lighter markings of the underparts.

#### **Black Duck, *Anas rubripes* Brewster**

The Black Duck is a common migrant along the west James Bay and southern Hudson Bay coasts except, perhaps, on the Cape Henrietta Maria barrens. It nests within the willow thickets at the edge of the barrens, and also probably on the inland marshes (Cf. Hanson, Rogers & Rogers, 1949). Spreadborough (Macoun & Macoun, 1909, p. 80) found Black Ducks breeding in great numbers on both sides of James Bay. Lewis and Peters (1941) considered that they were the second most abundant duck at James Bay between September 14 and October 7, but at about the same season in 1948, Stirrett says, "Reported by hunters on a number of occasions, but not one of the plentiful ducks." McKenzie collected a female at Moose Factory (Brewster, 1902, p. 187).

Macpherson and I each saw only three Black Ducks during our stay on Sandy Island, June 15 to 29, 1949, but it must be remembered that much of our time was spent looking for small birds in the thickets near our camp. On June 17 at Ship Sands, I saw three adults, one of which was with five downies (female and four downies collected). Next day, Macpherson saw four Black Ducks on Ship Sands. On June 21, along the channel between Ship Sands and Sandy Island, we both saw in the distance about fifteen ducks which may have been Black Ducks, and on the same day I found a nest with nine fresh eggs in a willow and alder thicket. About 200 Black Ducks were feeding on the edge of the tide flats on the north end of Ship Sands on September 9 and 11, 1950, and a few were also scattered along the tidal creeks. On October 4, 1948, Stirrett saw four Black Ducks near the southwest point of Akimiski Island. On June 26, Hanson saw large numbers of Black Ducks flying up and down the tidal zone at the mouth of Chickney Channel, and Hanson and Queneau recorded 260 on July 18, 1947, during a flight along the coastal marshes between Fort Severn and Attawapiskat (Hanson, Rogers & Rogers, 1949, pp. 198-199).

Although a few unidentified ducks seen flying in the early part of 1947 may have been of this species, we did not certainly identify any until July 14, when a female was collected at latitude  $53^{\circ} 45'$ . With it were six or seven young, two or three times their hatching size, which escaped into the willows. At Little Cape, July 27 to August 3, fifteen Black Ducks were identified, and another fifteen ducks seen in the distance were also probably Black Ducks. All were feeding on the short grass at the edge of the estuary. Between August 7 and 14, seventy Black Ducks (a few of these may have been Mallards) were seen at the mouth of Shagamu River. On June 19, 1860, Drexler obtained a female which was accompanied by young from Cape Hope, Severn River (Brewster, 1902, p. 187). Hanson and Queneau saw about 720 Black Ducks during a flight made in mid-July along the coastal marshes between York Factory and Fort Severn (Hanson, Rogers & Rogers, 1949, p. 199), but as no Mallards were recorded on the flight, it seems possible that some of these ducks may in reality have been that species. In late August or September, 1914, Comeau (1915) found Black Ducks common in the marshes and ponds between Cape Tatnam and Owl River. Blakiston (1883, p. 146) records them at York Factory.

**American Pintail, *Anas acuta tzitzihoa* Vieillot**

The American Pintail probably breeds at the edge of the bush and on the inland marshes along both the west James Bay and southern Hudson Bay coasts, and certainly it is the most plentiful surface feeding duck on these coasts, both during the breeding season and in migration. Spreadborough found it breeding on both sides of James Bay, and in August he saw thousands on the west side, chiefly north of Albany (Macoun & Macoun, 1909, p. 89).

Lewis and Peters (1941), who observed it at all places visited, say that it was much the commonest duck in the James Bay region during the time of their visit, September 14 to October 7, 1940. At Ship Sands Island, they saw as many as 5,000 on September 25. On September 9, 1950, I saw one on the Moose River side of the Ship Sands barrens; on September 11, about 500 were feeding on the Canoe Channel side. Hewitt, Kelsall, and Lemieux reported the American Pintail common and breeding in southern James Bay in 1947, and Stirrett thought it was the most abundant duck there in late September and October, 1948. He says that hunters' bags of ducks sometimes consisted almost entirely of Pintails. On September 27, he saw fifty Pintails at Moose Factory, and on October 5, five near the southwest point of Akimiski Island. On June 26, 1947, Hanson collected two adult males at the mouth of Chickney Channel, and that evening, saw large numbers flying up and down the tidal zone. On August 18, he and Queneau saw 1,300 Pintails during a flight along the coastal marshes between Fort Severn and Attawapiskat. A day or two previously, they had counted about 220 in a flight over the coastal marshes from York Factory to Fort Severn (Hanson, Rogers & Rogers, 1949, pp. 198-199). Comeau (1915) considered the American Pintail to be the commonest duck between Cape Tatnam and Owl River in late August or September, 1914. It has also been recorded from Moose Factory (Preble, 1902, p. 84), Severn House (Murray, 1859, p. 229), and York Factory (Bell, 1884).

My records are given in the following table. The hours represent the time spent on the coastal barrens and in the more open parts of the thickets where ducks were likely to be seen.

Place	Date	Hours	Number seen	Number collected
Ship Sands.....	May 31, 1947 June 17, 1949	3½ 5	20 20	-
(Macpherson).....	June 17, 18, 1949	8	16	-
North Point.....	June 3-6, 1947	11½	170	-
Big Piskwanish.....	June 9-12, 1947	7	8	1
Long Ridge Point.....	June 14-16, 1947	9	16	-
Cape Duncan, Akimiski Island....	June 24-27, 1947	6	9	-
Raft River.....	July 8-13, 1947	8	12 + 12 downy	2 + 7 downy
Lake River.....	July 17, 1947	7	3	-
Cape Henrietta Maria.....	July 24, 1947	16	1 + 8 downy	1 + 4 downy
Little Cape.....	July 28- Aug. 1, 1947	13	110	3
Shagamu River.....	Aug. 8-14, 1947	11	130	2 + 9 juv.
Goose River.....	Aug. 18, 1947	Camp	12	-
Kettle River.....	Aug. 19, 1947	½	20	-
Cape Tatnam.....	Aug. 23-28, 1947	13	520	1 + 3 juv.

At Raft River, I saw two groups of downy young about 10 days old, and MacKenzie saw a group of smaller downies. The brood of eight young seen at Cape Henrietta Maria on July 24 were probably less than a week old. The Indians who were camped about 6 miles south of Cape Henrietta Maria said that there were many more Pintails in their area than there were near our camp and that they had killed over 200 near one big lake. They had also been hunting northwards to the cape, and this probably accounted to some extent for the lack of Pintails and other nesting ducks. At Little Cape, all the Pintails seen were flying over except two singles and a flightless flock of about twenty. The latter were found on a shallow lake. When scared, some dived, but later all took to the surrounding willow scrub. The three which were collected proved to be males and were very fat. At Shagamu River and Cape Tatnam, all the Pintails seen were flying over or feeding on mud flats, grass marshes, or small lakes outside the edge of the bush. Probably most of these were juveniles. All those seen were able to fly except one brood at Shagamu River on August 8, and one at Cape Tatnam on August 23. The two adult females collected at Raft River

stand out from the remainder of the collection, and also from those in the National Museum, by reason of the rusty colouring of the breast and belly. This is probably due to water staining.

**Green-winged Teal, *Anas carolinensis* Gmelin**

The Green-winged Teal is probably the second commonest surface feeding duck along the south Hudson Bay coast. It breeds in the marshes near the edge of the bush bordering both the west James Bay and south Hudson Bay coasts. Lewis and Peters (1941), who recorded it at nearly all places visited during their James Bay trip between September 14 and October 7, considered that only the American Pintail and the Black Duck were more numerous. Hewitt, Kelsall, and Lemieux make the same statement. Spreadborough (Macoun & Macoun, 1909, p. 85) found it common and breeding on both sides of James Bay. Between September 8 and 11, 1950, I saw 180 on the mud flats along Canoe Creek near Sandy Island. An adult female now in the National Museum was taken by F. Johansen on July 3, 1920, between Moose and Albany Rivers (Baillie & Harrington, n.d.). At Raft River I collected a female and her brood of ten, which were not more than 2 or 3 days old on July 8, 1947, from a small lake within the edge of the woods. At Little Cape, a male was collected from a group of flightless adults seen on July 29 on the same lake as the flightless American Pintails. On July 18, 1947, Queneau and Hanson (Hanson, Rogers & Rogers, 1949, pp. 198-199) identified 115 Green-winged Teal during a flight along the coastal marshes from Fort Severn to Attawapiskat. A few days earlier they had counted about fourteen between York Factory and Fort Severn.

Forster (1772, p. 419) was told that Green-winged Teal were not very plentiful at Severn River. The three (two collected) Green-winged Teal which I saw at Kettle River and several of the sixty-five seen at Cape Tatnam were feeding with American Pintails, but the teal were usually considerably tamer and remained after the Pintails had been flushed. Unselective shooting at Cape Tatnam produced one adult and eight juveniles, which were collected. The Green-winged Teal seen at Cape Tatnam were able to fly. Comeau (1915) considered this species to be one of the commonest ducks between Cape Tatnam and Owl River in late August or September, 1914. Bell (1884) obtained a specimen from York Factory.

**Blue-winged Teal, *Anas discors* Linnaeus**

A male Blue-winged Teal was collected at Moose Factory on May 19, 1930, by Waller (Baillie & Harrington, n.d.). On May 25, 1947, Hewitt saw two at Sandy Island, and Kelsall and Lemieux saw thirty-one in the Moose River estuary on August 16.

**Baldpate, *Mareca americana* (Gmelin)**

I collected two female Baldpates from a total of about ten seen at Ship Sands on May 31, 1947. On June 24, 1947, Hanson (Hanson, Rogers & Rogers, 1949, p. 198) collected an adult male near the mouth of Chickney Channel. Lewis and Peters (1941) noted seven on a pond on Akimiski Island on September 19, 1940. A flock of about thirty ducks which we saw at the mouth of Raft River on July 7, 1947, were thought to be of this species, and next day I saw two males (one collected) on the river. On

August 27, we collected a lone juvenile male at Cape Tatnam. This species was recorded from Hudson Bay by Murray (1859, p. 229), and Baird (1858, p. 784) lists a specimen in the Smithsonian collection which was taken by John Isbister at Nelson River.

**Shoveller, *Spatula clypeata* (Linnaeus)**

Murray (1859, p. 229) received a specimen from Moose Factory, and a specimen collected there by McKenzie is recorded in the catalogue of the United States National Museum (Preble, 1902, p. 84). Hewitt saw one on September 29, 1947, just east of there in Hannah Bay. Blakiston (1863, p. 146) obtained two specimens from Hudson Bay, probably from York Factory, since he does not mention obtaining birds from any other locality on Hudson Bay.

**\*Wood Duck, *Aix sponsa* (Linnaeus)**

Murray (1859, p. 239) received a Wood Duck from Moose Factory, and two others recorded in the catalogue of birds in the United States National Museum were taken there by James McKenzie (Preble, 1902, p. 84). It is possible that these specimens originated inland from the coastal region covered by this paper.

**\*Greater Scaup Duck, *Aythya marila nearctica* Stejneger**

Hewitt saw ten Greater Scaup Ducks on Moose River between May 25 and 26, and Stirrett records three at Moose Factory on October 3, one at Akimiski Island on October 4, and fifteen at Attawapiskat on October 10, but as no supporting specimens have been obtained, there is a possibility of confusion with the Lesser Scaup Duck, which Stirrett does not mention. Specimens of the Greater Scaup Duck have, however, been taken on the east coast of James Bay (Manning & Macpherson, MS.).

**Lesser Scaup Duck, *Aythya affinis* (Eyton)**

On May 31, 1947, I saw 200 Scaup Ducks on the small creeks of Ship Sands and at the mouth of Moose River. A male and two females which were collected proved to be of this species. On June 8, Kelsall and Lemieux saw four in the Moose River estuary. Lewis and Peters (1941) observed the Lesser Scaup Duck only at the mouth of Moose River in September and (or) early October, and at the mouth of Albany River in mid-September, 1940. Forster (1772, p. 413) described a male and female from Severn River under *Anas marila*, but as the length of the male was  $16\frac{1}{2}$  inches, it is probably referable to the smaller species (Cf. Baird, 1858, p. 791). Murray (1858, p. 230) obtained a Lesser Scaup Duck from Severn House, and Bell (1884) one from Matthews at York Factory. Baird (1858, p. 792) lists a specimen in the Smithsonian collection taken by John Isbister at Nelson River.

**American Golden-eye, *Bucephala clangula americana* (Bonaparte)**

The American Golden-eye is a fairly common duck along both the west James Bay and southern Hudson Bay coasts, especially near the mouths of rivers or large shoals. Spreadborough says that they breed along Moose River where he observed them in June, 1896 and 1904. They were also plentiful in the autumn (Macoun & Macoun, 1909, p. 98). On September 11,

1950, we saw nine (one collected) on Canoe Channel. Hewitt saw several at the estuary of Moose River between May 25 and 27, 1947, and six at Ship Sands on September 23; Stirrett saw one near Moose Factory on October 2, 1948. Lewis and Peters (1941) found them generally distributed in small numbers at the southern end of James Bay. They recorded them at the Attawapiskat and Albany Rivers, and at Akimiski Island in mid-September, 1940.

At Cape Duncan on June 25, 1947, I saw a single Golden-eye on a lake, and next day a flock of fifteen on the sea. On July 7, I saw about fifty at sea between the Attawapiskat and Raft Rivers, and on July 9 collected two American Golden-eyes from a group of three on the Raft River. On July 15, about 100 Golden-eyes were scattered among scoters feeding near the shoals at latitude  $53^{\circ} 45'$ . Another 100 were seen between Lake River and Cape Henrietta Maria on July 19.

On July 31, six were seen on the estuary at Little Cape, and a female collected was of this species. Forster (1772, p. 417) received a male Golden-eye from Severn River, where, he says, they are found about the lakes and ponds where they breed. On Hayes River, between Knee Lake and York Factory, July 6 to 11, Preble (1902, p. 85) noted a few American Golden-eyes each day.

#### **Buffle-head, *Bucephala albeola* (Linnaeus)**

At Sandy Island, Kelsall and Lemieux saw seven Buffle-heads on June 9, and two on July 4, near the estuary of Moose River. Murray (1859, p. 230), received specimens from Moose Factory and Severn House, and Blakiston (1863, p. 148) from Hudson Bay [York Factory?]. Forster (1772, p. 416) obtained a male and female from Severn River settlement which, he says, they visit in June: ". . . build their nests in trees, and breed among the woods, and near ponds; . . ."

#### **Old-squaw, *Clangula hyemalis* (Linnaeus)**

On May 30, 1947, I collected a female, and on June 15, Kelsall and Lemieux saw two Old-squaws at the mouth of Moose River. We saw a few along the east coast of Akimiski Island between Cape Duncan and Houston Point on June 28 and 29, and at Houston Point on June 30 and July 1. On July 19, seven Old-squaws were seen at sea near Cape Henrietta Maria, and during our stay there, from July 20 to 25, I saw ten flying over or swimming on the small lakes. At Cape Henrietta Maria we found two nests with eggs which would probably have hatched about July 26. All the seven specimens collected at Cape Henrietta Maria were females. Between July 26 and 27, two Old-squaws were seen at sea between Cape Henrietta and Little Cape. Murray (1859, p. 230) received a specimen from Severn House, Bell collected one at York Factory (Bell 1884), and Comeau (1915) saw a few in the estuary of Nelson River. A male in the National Museum was collected at York Factory by Matthews in 1885, and a second male is listed in the catalogue as having been obtained by him in 1886.

**\*Eastern Harlequin Duck, *Histrionicus histrionicus histrionicus* (Linnaeus)**

An unlabelled specimen of the Harlequin Duck which probably came from this area is recorded by Forster (1772, p. 419). Blakiston (1863, p. 149) reports examining one at York Factory. The United States National Museum catalogue records a specimen taken in James Bay on August 3, 1860 (Preble, 1902, p. 86).

**Hudson Bay Eider, *Somateria mollissima sedentaria* Snyder**

Hudson Bay Eiders nest on Gasket Shoal and other islands in James Bay (Manning, 1950). Occasionally they may nest on the mainland at Cape Henrietta Maria, but a more likely place is the small island off the western tip of the cape. Another small island half-way to Little Cape may be a nesting site.

On June 23, 1947, we saw about eighteen Hudson Bay Eiders in a flock at sea near Cape Duncan, and Kelsall and Stirrett saw one near the southwest point of Akimiski Island on October 5, 1948. As we neared Cape Henrietta Maria in 1947, we saw about 100 males (one collected) in flocks of twenty to thirty, and a few scattered females. Five females were seen flying over the land during our stay (July 20-25) at Cape Henrietta Maria, and one of these was collected. On July 26, during the first 30 miles of our trip from Cape Henrietta Maria to Little Cape, we saw about twenty-five Hudson Bay Eiders. They were single or in small flocks, the males and females usually being separate. Five female eiders were seen next day on the second half of the trip, but their species was not determined. On August 3 and 4, between Little Cape and Winisk River, we saw about ten Hudson Bay Eiders.

Both the specimens are typical *S.m. sedentaria*. ♂: wing chord, 297 mm.; culmen, 59 mm.; length of bill process, 22 mm.; width of bill process, 10·5 mm. The distal end of the lateral feathering is level with the posterior edge of the nostril. ♀: wing chord, 274 mm.; culmen, 52 mm.; length of bill process, 20 mm.; width of bill process, 6 mm.; relation of lateral feathering to posterior edge of nostril, + 1 mm. (See Snyder 1941).

**\*Pacific Eider, *Somateria mollissima v-nigra* Gray**

Murray (1859, p. 229) lists a specimen from Severn House, but in the following paragraph he clearly states that it came from Great Slave Lake, which is of course more probable. This form, therefore, has no place in a list of Hudson Bay birds.

**King Eider, *Somateria spectabilis* (Linnaeus)**

King Eiders nest in the barren region at Cape Henrietta Maria and possibly at other places along the southern Hudson Bay coast.

We saw about 150 males at sea as we approached Cape Henrietta Maria on July 19, 1947. On land, the only ones seen at the cape were two females with their young. The first brood were about a week old on July 23, and the second hatched on July 24. The two females, as well as three of the first brood and four of the second, were collected. As we were leaving on July 26, we saw two females at sea with about twelve

young. Between Cape Henrietta Maria and Little Cape, we saw about thirty King Eiders, singly and in small flocks. The males and females were usually segregated.

Hugh Conn (Norris-Elye, 1933) collected a male in June, 1932, at Fort Severn, where he said it had never been seen before, and Macoun (1900, p. 112) mentions a specimen in the National Museum which was taken at York Factory by Bell. This was probably the male obtained in 1886 and later presented to the Department of Marine and Fisheries (Nat. Mus. Cat.).

**White-winged Scoter, *Melanitta deglandi* (Bonaparte)**

The White-winged Scoter probably feeds in the sea along both the southern Hudson Bay and west James Bay coasts, but in rather fewer numbers than the American Scoter. Preble (1902, p. 88) says that many breed about the borders of small ponds throughout the interior. Lewis and Peters (1941) and Hewitt, Kelsall, and Lemieux considered it to be the second commonest scoter in the southern half of James Bay. Spreadborough (Macoun & Macoun, 1909, p. 115) found it common on the west coast of James Bay in July and August, 1904, and Murray (1859, p. 230) records specimens from Moose Factory and Severn House.

Prior to our arrival at Shagamu River in 1947, we saw no female scoters. A third or more of those seen after we left there were female or immature. A large number of scoters were seen at the mouth of Moose River, but neither the species nor the number was recorded. When we were travelling in bad weather, it was not possible to count or identify birds with any accuracy; besides which, they were not so easily seen. This may account for some gaps in the following records:

Place	Date	Number seen
North Point.....	June 6, 1947	10
Big Piskwanish to Long Ridge Point.....	June 13, 1947	300
Attawapiskat to Raft River.....	July 7, 1947	20
Last 30 miles to Little Cape .....	July 27, 1947	40
Little Cape to Winisk River.....	Aug. 3, 4, 1947	50
Winisk River to Shagamu River.....	Aug. 5, 6, 1947	50
Severn River to Cape Tatnam.....	Aug. 16-21, 1947	100

**Surf Scoter, *Melanitta perspicillata* (Linnaeus)**

Of the three species of scoter occurring in this region, the Surf Scoter is probably the least common. Kelsall and Lemieux saw one at Sandy Island on June 1, 1947, and occasionally after that throughout the summer. In September and October, 1940, Lewis and Peters (1941) saw it only a few times and in small numbers. During the same months in 1947, Hewitt

recorded 25. On the other hand, Spreadborough (Macoun & Macoun, 1909, p. 117) reported it very abundant on the west coast of James Bay in July and August, 1904, but as he does not mention the American Scoter, there may have been some misidentifications. In 1947 we collected a male Surf Scoter near Sandy Island on June 1, and another on June 13 near Long Ridge Point where at least a fifth of the 200 dark-winged scoters seen were of this species. After this, however, Surf Scoters were not identified with certainty. In the following table, Surf Scoters and American Scoters are listed together, as we were seldom able to examine them sufficiently closely to be sure of the identification.

Place	Date	Number seen	Number collected
Big Piskwanish to Long Ridge Point.....	June 13, 1947	200	1 Surf Scoter
S. coast Akimiski Island.....	June 23, 1947	600	-
E. coast Akimiski Island.....	June 28, 29, 1947	30	-
Attawapiskat to Raft River.....	July 7, 1947	80	-
Near shoals, Lat. $53^{\circ} 45'$ .....	July 14, 15, 1947	500	2 American Scoters
Cape Henrietta Maria to Little Cape.....	July 25, 26, 1947	60	-
Little Cape to Winisk River.....	Aug. 3, 4, 1947	80	-
Winisk River to Shagamu River.....	Aug. 5, 6, 1947	100	-
Shagamu River to Severn River.....	Aug. 15, 1947	100	1 American Scoter
Severn River to Cape Tatnam.....	Aug. 16-21, 1947	500	-

Blakiston (1863, p. 149) received a specimen of the Surf Scoter from York Factory. The "Great Black Duck from Hudson's-Bay" described and figured (dated 1749) by Edwards (1750, p. 155) from a specimen which was brought to England by Isham formed the basis of Linnaeus's description of *Anas perspicillata* (A.O.U., 1931).

#### American Scoter, *Oidemia nigra americana* Swainson

The American Scoter is the commonest scoter along both the west James Bay and southern Hudson Bay coasts. Lewis and Peters (1941) found it the commonest scoter in open water on both sides of southern James Bay during September and October, 1940, and sometimes saw scattered companies numbering 100 to 400 individuals. Hewitt, Kelsall, and Lemieux reported it the commonest scoter in southern James Bay in spring, summer, and autumn. We collected two American Scoters on July 15 from a scattered flock of 300 scoters seen near the shoals at latitude  $53^{\circ} 45'$ . Most of this flock and of the scoters seen farther north were certainly American Scoters, but owing to the difficulty in distinguishing between them, particularly in rough weather when field glasses could not be used, the two

species of dark-winged scoters have been grouped into one table (see Surf Scoter above). We saw no female scoters until after we had left Shagamu River on August 15. Between July 14 and August 15, only about one-quarter of the scoters could fly, but by August 21 the proportion had increased to half. Swainson's type specimen of *O. americana* from Hudson Bay, latitude 57 degrees (Swainson & Richardson, 1831, p. 451) presumably came from the approaches to York Factory.

**\*Ruddy Duck, *Oxyura jamaicensis rubida* (Wilson)**

Blakiston (1863, p. 150) examined a specimen at York Factory. Bell (1880, 1882) records a male shot at the same place.

**Hooded Merganser, *Lophodytes cucullatus* (Linnaeus)**

On July 31, 1947, Hanson (Hanson, Rogers & Rogers, 1949) saw two Hooded Mergansers at the mouth of the north branch of Albany River. One of these, a fully grown juvenile, was collected. Murray (1849, p. 231) received a specimen from "Hudson's Bay". According to Macoun and Macoun (1909, p. 77), Spreadborough observed the Hooded Merganser breeding from Missinabi River to Cape Henrietta Maria, but this is probably an error.

**American Merganser, *Mergus merganser americanus* Cassin**

Some of the mergansers seen by us in 1947 may have been referable to the American Merganser, but none were identified definitely, and sight records of either this species or the Red-breasted Merganser should be treated with caution. Spreadborough (Macoun & Macoun 1909, p. 74) found it common and breeding on Moose River. On June 12, 1947, Kelsall and Lemieux saw ten at the Moose River estuary, and on September 21 Hewitt saw three at Moose Factory. Williams (1921) observed a flock which he says was probably of this species at Fort Albany on August 20, 1920. On October 4, 1948, Stirrett recorded two, and on October 6, three near the southwest point of Akimiski Island. Bell (1880) reported it common throughout the Norway House, Churchill, and York Factory regions. Comeau (1915) saw a female and brood on Nelson River. Preble (1902, p. 82) took a moulting female on Hayes River a few miles above York Factory on July 10, 1900.

**Red-breasted Merganser, *Mergus serrator serrator* Linnaeus**

Throughout the summer the Red-breasted Merganser can regularly be seen in small numbers along both the James Bay and southern Hudson Bay coasts, although there appear to be no actual breeding records. Lewis and Peters (1941) found that the Red-breasted Mergansers were generally distributed in small to moderate numbers in the southern half of James Bay in September and early October, 1940. They recorded it on the southern Akimiski Island coast between September 18 and 20.

The records in the following table are given under Red-breasted Merganser, because we identified no American Mergansers. Actually, only nine Red-breasted Mergansers were recognized with certainty. Two of these were at North Point, and seven at Long Ridge Point. The fifty

seen at the mouth of Goose River were in one flock running over the water as we entered the river in a fog. The hours given in the table represent the time spent on or near the coastal barrens which was the only habitat in which the mergansers were seen.

Place	Date	Hours	Number seen	Number collected
North Point .....	June 3, 1947	6	6	1
Big Piskwanish.....	June 9-11, 1947	7	4	-
Long Ridge Point.....	June 14-16, 1947	9	20	-
Cape Duncan.....	June 26, 1947	3	1	-
Winisk River to Shagamu River.	Aug. 6, 1947	At sea	10	-
Goose River.....	Aug. 17, 1947	-	50	-

Murray (1859, p. 231) obtained a specimen of the Red-breasted Merganser from Severn House, and Bell (1884) was given one by Matthews from York Factory. Comeau (1915) found the Red-breasted Merganser common near all the rivers between Cape Tatnam and Owl River in late August or September, 1914.

The specimen we collected at North Point was a single bird in very worn plumage. Its testes measured 22 mm. It resembled an adult bird, except that the lesser wing coverts and a few worn feathers on the back were brownish. Most of the rump feathers were not vermiculated, the breast band was pale and only narrowly streaked with black, and the primaries were brownish. It was probably a second-, or possibly a first-year bird.

#### Turkey Vulture, *Cathartes aura septentrionalis* Wied

A Turkey Vulture was killed at Moose Factory in June, 1898, and examined by Dr. Newnham (Fleming, 1903). Another was collected at Fort Severn by Hugh Conn of the Hudson's Bay Company in August, 1931 (Norris-Elye, 1932).

#### Eastern Goshawk, *Accipiter gentilis atricapillus* (Wilson)

A juvenile male Eastern Goshawk in the National Museum of Canada was collected at the mouth of Moose River by Corporal E. S. Covell on November 6, 1933. Stirrett saw one near the southwest point of Akimiski Island on October 4, 1948. Swainson and Richardson (1831, p. 43) describe a goshawk killed at York Factory on August 14, 1822. It is referred to as a young bird of the season by Swainson and Richardson, and as a male in mature plumage by Sabine (1823, p. 670). Baird (1858, p. 16) lists a specimen in the United States National Museum collected at Nelson River, and Matthews gave Bell (1884) one from York Factory.

**Sharp-shinned Hawk, *Accipiter striatus velox* (Wilson)**

A Sharp-shinned Hawk from latitude 51 degrees near Moose Factory is described in Swainson and Richardson (1831, p. 45) under the name *Accipiter pennsylvanicus*. Another was taken at Moose Factory by Waller on May 22, 1930 (Baillie & Harrington, n.d.). Fielden (1887) records one taken in the vicinity of York Factory by Markham about August 6, 1886.

**\*Cooper's Hawk, *Accipiter cooperii* (Bonaparte)**

Williams (1921) saw a Cooper's Hawk at the estuary of Albany River on August 25, 1920, and Stirrett saw one at Attawapiskat on October 4, 1948. Comeau (1915) shot one on the south side of Nelson River.

**Northern Red-tailed Hawk, *Buteo jamaicensis abieticola* Todd**

On June 6, 1896, Spreadborough (Macoun, 1903, p. 230) saw three Red-tailed Hawks on Moose River near James Bay, and Williams (1921) observed one on August 24, 1920, at the estuary of Albany River, as well as several farther inland. At least one was shot at York Factory on Franklin's first expedition (Swainson & Richardson, 1831, p. 50). G. M. Sutton (Todd, 1950) saw two at Moose Factory on June 4, 1926. As no specimens for this area are available, I follow Todd (1950) in assigning the population to this race on geographical grounds.

**\*Northern Red-shouldered Hawk, *Buteo lineatus lineatus* (Gmelin)**

At York Factory, Matthews gave Bell (1884) a Red-shouldered Hawk.

**\*Broad-winged Hawk, *Buteo platypterus platypterus* (Vieillot)**

A male Broad-winged Hawk in the Smithsonian Institution was taken by McKenzie at Moose Factory in 1862 (Turner, 1886, p. 244). Spreadborough reported the Broad-winged Hawk common on Moose River (Macoun & Macoun, 1909, p. 259).

**\*Swainson's Hawk, *Buteo swainsoni* Bonaparte**

An unsexed adult Swainson's Hawk in the dark plumage collected at Moose Factory by Haydon in 1881 is in the United States National Museum (Preble, 1902, p. 106).

**American Rough-legged Hawk, *Buteo lagopus s. johannis* (Gmelin)**

There seems to be good evidence that the American Rough-legged Hawk is not uncommon in the southern James Bay region, yet the two specimens of *Buteo* actually collected were not of this species. Hewitt, Kelsall, and Lemieux report seeing American Rough-legged Hawks occasionally in southern James Bay from May 22 to October 8, 1947, and a *Buteo* seen flying near Moosonee by Macpherson and myself on June 14, 1949, was thought to be of this species. On September 8, 1950, I saw ten hunting over the Ship Sands barrens, and Macpherson noted five in the air at one time. Stirrett recorded five at Attawapiskat on October 4, 1948, and two on October 6 and 7. Murray (1859, p. 221) received a specimen from Severn House.

\***Golden Eagle, *Aquila chrysaetos canadensis* (Linnaeus)**

On June 5, 1942, Shortt and Hope observed a Golden Eagle at Cockispenny Point (Snyder, 1949). The feet of a Golden Eagle were sent to the Royal Ontario Museum of Zoology by Jack Rodgers of the Hudson's Bay Company's Lake River post. The eagle was said to have been shot by an Indian on or near its nest in a pine tree on a "hill" a few miles inland from Cape Henrietta Maria. There was more than one pair in the vicinity, and eagles were again seen there the next year (Snyder, 1940). As the tree line is about 30 miles inland from Cape Henrietta Maria, the exact locality is doubtful. The most likely places, however, for both eagles and jack pine are the rocky outcrops at Sutton Lake. Comeau (1915) reports seeing Golden Eagles several times in 1914 on the west coast of Hudson Bay, presumably between Cape Tatnam and Owl River. The "White-Tailed Eagle" described and figured (dated 1741) by Edwards (1743, p. 1) from a specimen brought from Hudson Bay by a gentleman of the Hudson's Bay Company formed the basis of Linnaeus's description of *Falco canadensis* (A.O.U., 1931).

\***Northern Bald Eagle, *Haliaeetus leucocephalus washingtonii* (Audubon)**

T. F. McIlwraith saw a Bald Eagle at Moose Factory on August 29, 1931 (Baillie & Harrington, n.d.). According to Swainson and Richardson (1831, p. 13), Hutchins' manuscript notes on the Golden Eagle in Hudson Bay in reality refer to this species.

**Marsh Hawk, *Circus cyaneus hudsonius* (Linnaeus)**

The Marsh Hawk is fairly generally distributed along the west coast of James Bay and the southern coast of Hudson Bay. Williams (1920) saw one at the mouth of French River on August 20, 1919, and one at Bushy Island on August 19. Murray (1859, p. 221) received a specimen from Moose Factory; Macpherson and I saw two Marsh Hawks near Moosonee on June 14, 1949; and Stirrett saw two at Ship Sands on October 2, 1948. In 1950, I saw four (one collected) hunting along the marshy shore of Sandy Island between September 8 and 10, and three others over the Ship Sands barrens on September 9. Mice were extremely scarce at that time, and the male collected was very emaciated. On June 12, 1947, we collected an adult male, and I saw three other hawks almost certainly belonging to this species. Spreadborough (Macoun & Macoun, 1909, p. 242) reported Marsh Hawks abundant on both sides of James Bay in July and August, 1904. Williams (1921) saw nine between Snake Island and the estuary of Albany River, August 14-16, 1920. Lewis and Peters (1941) observed the Marsh Hawk near the central or western end of the south shore of Akimiski Island between September 18 and 20, 1940, and Stirrett saw one on Akimiski Island on October 4 and 5, 1948. Murray (1859, p. 221) received a specimen from Severn House. At Cape Tatnam I collected two juvenile male Marsh Hawks and saw thirteen others, all juveniles, on the coastal barrens between August 22 and 27. Comeau (1915) reported Marsh Hawks common along the coast between Cape Tatnam and Owl River in late August or early September, 1914. Preble (1902, p. 105) saw one on July 13, 1900, at Beacon Point. Matthews gave Bell (1884) a specimen from York Factory, where a young female was also taken by Richardson

on August 23, 1821 (Swainson & Richardson, 1831, p. 65). The "Ring Tailed Hawk" described and figured by Edwards (1750, p. 107) from a specimen brought home from Hudson Bay by Isham, was the basis of Linnaeus' description of *Falco hudsonius* (A.O.U. 1931).

**Osprey, *Pandion haliaetus carolinensis* (Gmelin)**

Spreadborough (Macoun & Macoun, 1909, p. 287) observed three Ospreys on the Moose River near Moose Factory on June 7, 1896. A pair was breeding on the top of a dead spruce tree. On June 21, 1949, I had a good view of an Osprey standing on a sand bank in the channel between Sandy Island and Ship Sands. Next day, one was seen in the same region by Macpherson, and on June 23 he saw two there. One was seen again at Sandy Island on June 29. Williams (1921) saw an Osprey at the estuary of the Albany River on August 18, and again on August 25, 1920. Kelsall and Lemieux saw one at Fort Albany on June 27, 1947. In late August or September, 1914, Comeau (1915) saw several Ospreys on the rivers and coast of Hudson Bay between Cape Tatnam and Owl River, and Preble (1902, p. 108) saw one at York Factory on August 27, 1900.

**American Gyrfalcon, *Falcon rusticolus obsoletus* Gmelin**

Following Swan (1936) and Todd and Friedman (1947), the three forms of the American Gyrfalcon are tentatively grouped under the one race, although clearly more field observations are needed before the true relationship can definitely be known (Cf. Manning, 1949). The darkest form has not been shown to occur in this area (Cf. Taverner and Sutton, 1934), and modern records of the other two are lacking. Older information indicates that the grey form breeds in the region of the south coast of Hudson Bay, but references to the white form are contradictory. Forster (1772, pp. 383, 423) described under *Falco sacer* what is probably the grey form of the Gyrfalcon from Severn River, and under the same name Bell (1880) mentions receiving a specimen from York Factory. Two specimens of the White Gyrfalcon, collected by Bell at York Factory in 1879, are listed in the National Museum catalogue. One has since been presented to Queen's University; the other is still in the collection. According to Forster's informant (Graham), *F. sacer* bred there in April and May and was non-migratory. Pennant (1785, p. 222), speaking of the white form, says, "Mr. Hutchins has often observed it about Albany fort, where it appears in May, and retires before winter. . ." Murray (1859, p. 221) records a specimen under *F. candicans* from York Factory and says, "A constant resident in Hudson's Bay territories, known as the 'speckled partridge hawk' and the 'winterer'." Ridgway (Baird, Brewer & Ridgway, 1905, p. 112) describes a female from Moose Factory.

**Duck Hawk, *Falco peregrinus anatum* Bonaparte**

On June 23, 1949, near Middleboro Island, Macpherson collected an immature female Duck Hawk with a bell and leather strap on its foot. Its stomach contained fish. Hewitt saw two Duck Hawks at Ship Sands on September 24, 1947, and Macpherson one on September 9, 1950. Murray (1859, p. 221) received a specimen from Severn House, and Bell (1880)

recorded a male from York Factory. Macoun (1903, p. 254) lists two specimens obtained by Bell at York Factory. These are also recorded in the catalogue of the National Museum.

**Eastern Pigeon Hawk, *Falco columbarius columbarius* Linnaeus**

The Pigeon Hawk probably breeds to the edge of the trees along both the west James Bay and southern Hudson Bay coasts. On September 23, 1947, Hewitt saw one at Ship Sands, and on September 10, 1950, Macpherson noted one flying over Sandy Island. Spreadborough (Macoun & Macoun, 1909, p. 280) found them abundant from Cape Henrietta Maria to Moose Factory in 1904. Lewis and Peters (1941) noted the Pigeon Hawk on southern Akimiski Island between September 18 and 20, 1940, and Stirrett saw one there on October 4, 1948. Forster (1772, p. 382) says they arrived at Severn River in May and bred on the coast. At Cape Tatnam, I saw ten flying over the coastal barrens between August 24 and 27, 1947. A female and 2 male juveniles referable to the eastern race were collected. The stomachs of all contained small passerine birds, probably Savannah Sparrows. Richardson (Swainson & Richardson, 1831, pp. 35-36) says that the Pigeon Hawk is "not uncommon" at York Factory, where a specimen was collected on September 4, 1822.

**Eastern Sparrow Hawk, *Falco sparverius sparverius* Linnaeus**

Spreadborough (Macoun & Macoun, 1909, p. 284) observed the Sparrow Hawk from the Missinabi north to Moose Factory, and Mearns (1892, p. 262) referred a specimen from Moose Factory to the eastern race. On June 24, 1950, Macpherson and I had a very good view of a Sparrow Hawk between the Town of Moosonee and the station. Comeau (1915) reports seeing Sparrow Hawks frequently in August or September 1914, presumably between Cape Tatnam and Owl River, but possibly he has confused them with Pigeon Hawks, which is a species he does not mention. Bell (1880) obtained a male at York Factory, and Baird (1858, p. 14) lists one collected at Nelson River in 1857.

**Hudsonian Spruce Grouse, *Canachites canadensis canadensis* (Linnaeus)**

Specimens from Moose Factory are recorded in the catalogue of the United States National Museum (Preble, 1902, p. 103). Spreadborough found it common on the James Bay coast north to Raft River (Macoun & Macoun, 1909, p. 218), and Lewis and Peters (1941) observed it on the central or western part of the south coast of Akimiski Island between September 18 and 20, 1940. Forster (1772, p. 389) records a specimen from Severn River, and Bell (1884; Macoun, 1900, p. 200) was given a specimen from York Factory, where Hearne (Tyrrell, 1911, p. 378) says that in some years they were seen in considerable numbers. A male and a female Spruce Grouse are figured and described by Edwards (1750, p. 118; 1747, p. 71, Plate dated 1746) under the title of "The Black and Spotted Heathcock" and "The Brown and Spotted Heathcock", respectively. The former was brought to England from Hudson Bay by Isham, the latter by Light. It was "The Black and Spotted Heath-cock" which formed the basis for Linnæus's description of *Tetrao canadensis* (A.O.U. 1931). The type region

for *C. c. canadensis* is therefore probably on the southern Hudson Bay coast, but in southern James Bay *C. c. canadensis* and *C. c. canace* may intergrade (Rand, 1948a).

**Canada Ruffed Grouse, *Bonasa umbellus obscura* Todd**

Spreadborough found the Ruffed Grouse common from the Missinabi to Moose Factory (Macoun & Macoun, 1909, p. 220). From our camp on Sandy Island, we heard Ruffed Grouse drumming several times between May 28 and June 3, 1947, and between June 15 and 29, 1949; and Kelsall and Lemieux also heard them there during June, 1947. I saw three at different times between June 15 and 29, 1949, at the edge of the Sandy Island poplar grove. The first two seen on June 22 and 24, respectively, were collected and proved to be males. On June 27, 1949, on Haysey Island, I collected a female which had a well-marked incubating patch. Forster (1772, p. 393) says that this species is common at Moose Fort but is seldom seen at Albany or to the northward. Nevertheless, he records two specimens from Albany and two from Severn River. Bell (1880) says "rare as far north as York Factory", and again (1884), "comes nearly as far north as York Factory".

Following the evidence given by Snyder and Shortt (1946) for the recognition of *B.u. canescens* of Todd (= *B.u. obscura* Todd, 1947), our three medium dark, grey-phased specimens from Moose River estuary are referred to this race. Ridgway and Friedmann (1946), who synonymize Todd's race with *B.u. umbelloides*, point to the possibility of *B.u. yukonensis* occurring at York Factory.

**Willow Ptarmigan, *Lagopus lagopus albus* (Gmelin)**

There are no modern records of Willow Ptarmigan nesting in this region, but a few pairs probably breed on Akimiski Island and along the coast north from there in places where there is dry, open ground. In winter they are sometimes very abundant from Fort Severn westwards. Lewis and Peters (1941) recorded two flocks totalling twenty-four birds on September 19, 1940, in an old burn on dry, sandy ridges 2 or 3 miles inland near the centre of the south coast of Akimiski Island, and on June 26, 1947, I saw a male Willow Ptarmigan among the small open spruce which grew on the drier ground at Cape Duncan. Spreadborough shot nearly full-grown birds on August 13, 1904, 40 miles south of Cape Henrietta Maria (Macoun & Macoun, 1909, p. 225). Forster (1772, pp. 390-392) received four specimens from Severn River. He says that they breed everywhere along the coast and were "so plentiful that ten thousand have been taken at Severn, York, and Churchill Forts." (Cf. Pennant, 1785, p. 311.) Hutchins (Thompson, 1891, p. 514) had known upwards of 10,000 to be caught in the nets at Fort Severn between November and the end of April, and Bell (1880) mentions their abundance at York Factory in winter. J. R. Clare (Blakiston, 1863, p. 138) gave the average annual number consumed at York Factory over a 5-year period (*circa* 1860) as 1,870, with a maximum of 4,474 in one year. Comeau (1915) reports that during the winter of 1913-14, hundreds of Willow Ptarmigan were killed at Port Nelson, and equally large numbers were apparently killed there by Sir Thomas Button's party in 1613 (Pennant, 1885, p. 311). Edwards (1747, p. 72) based his plate

(dated 1746) of "The White Partridge" on an early summer male of unknown origin, but he also describes a winter specimen from Hudson Bay given him by Light. Gmelin based his description of *Tetrao albus* mainly on Edwards (A.O.U., 1931). Willow Ptarmigan summering in this region would of course be *L. l. albus*, and all specimens obtained at Churchill by Taverner and Sutton (1934) belonged to this race. It is unlikely that *L. l. leucopterus* gets this far south even in winter. Willow Ptarmigan are quite common on some of the James Bay islands, notably the Twins, and it cannot therefore be taken for granted that the boundary between *L. l. albus* and *L. l. ungavus* is necessarily formed by James Bay or that the Akimiski Island population is definitely *L. l. albus*.

**Hybrid Grouse, *Lagopus lagopus* (Linnaeus) x *Canachites canadensis* (Linnaeus)**

A Willow Ptarmigan x Spruce Grouse hybrid in the National Museum was shot while it was feeding with a covey of Willow Ptarmigan at York Factory on February 16, 1931. A similar bird had been observed there the previous year (Taverner, 1932).

**\*Rock Ptarmigan, *Lagopus mutus rupestris* (Gmelin)**

The Rock Ptarmigan ("Rock Grouse") was first distinguished by Pennant (1785, p. 312), principally on the authority of Hutchins, who reported that it appeared only at York and Severn factories in very severe seasons (Swainson & Richardson, 1831, p. 354). Gmelin based his formal description of *Tetrao rupestris* on that of Pennant.

**Northern Sharp-tailed Grouse, *Pedioecetes phasianellus phasianellus* (Linnaeus)**

The catalogue of birds in the United States National Museum records a specimen taken in 1881 at Moose Factory (Preble, 1902, p. 104), where, according to Bishop Newnham, the Sharp-tailed Grouse arrives from the northeast and frequently remains all winter, leaving again in the spring (Macoun & Macoun, 1909, p. 231). In October, 1932, G. S. Cotter reported that these grouse appeared in unusual numbers at Moosonee, with large and small flocks coming from both east and north, and near the end of the month R. L. Lamb said that vast flocks passed over Moosonee (Snyder, 1935, p. 15). In 1948, Stirrett reported that the Sharp-tailed Grouse was more plentiful than it had been for a number of years, and on September 27 and October 26 he saw hundreds along the railway between Cochrane and Moosonee. On September 27, he saw five at Moosonee, and on October 13, one at Attawapiskat. Between October 4 and 5, he and Kelsall saw eight to fifteen near the southwest point of Akimiski Island. Forster (1772, pp. 394-397), who recorded one specimen from Fort Albany and two from Severn River, says that they were commonest in winter at Fort Albany.

The Sharp-tailed Grouse is an abundant migrant in southern James Bay in years of emigration; at other times it is apparently rather scarce in the coastal region. Hearne (Tyrrell, 1911, p. 377) says that Sharp-tailed Grouse were always to be found in the southern parts of Hudson Bay [Albany and Moose Factory?] and that in some winters a few were shot at York Factory. Isham (Rich, 1949, p. 124) reported them scarce in the vicinity of York Factory [or Churchill?] with seldom more than five or seven in a flock; but farther to the south or inland they were numerous, and

flocks of from fifty to seventy were sometimes seen. Tyrrell (1898, p. 165F) saw Sharp-tailed Grouse near York Factory at the end of November, 1893. "The Long-tailed Grouse from Hudson's Bay" described and figured by Edwards (1750, p. 117) from a female brought home by Isham, formed the basis of Linnaeus's description of *Tetrao Phasianellus* (A.O.U., 1931).

**\*Whooping Crane, *Grus americana* (Linnaeus)**

Forster (1772, p. 409) received a Whooping Crane from York Fort [Factory]. Isham (1949, p. 125) said that they were scarce by the sea-shore [York Factory or Churchill?] but were more numerous inland. He told Edwards (1750, p. 132) that "... they come into those northern parts in the summer season, where they breed, and return southward at the approach of winter . . .". "The Hooping-crane from Hudson's Bay" figured (dated 1748) and described by Edwards (1750, p. 132) from a specimen brought to England by Isham was the basis of Linnaeus's description of *Ardea americana* (A.O.U. 1931).

**\*Little Brown Crane, *Grus canadensis canadensis* (Linnaeus)**

At the mouth of French River on August 20, 1919, Williams (1920) saw tracks which he thought were those of a crane. Forster (1772, p. 409) received a specimen from Severn River. He says, "These cranes arrive near Severn in May, have only two young at a time, retire southward in autumn . . .". This indicates that they nested in the vicinity. "The Brown and Ash-coloured Crane" described and figured (dated 1749) by Edwards (1750, p. 133) from a specimen brought from Hudson Bay by Isham formed the basis of Linnaeus's description of *Ardea canadensis* (A.O.U. 1931).

**\*Virginia Rail, *Rallus limicola limicola* Vieillot**

Matthews gave Bell (1884) a specimen from York Factory. This is the only rail mentioned by Bell, and it may therefore be a misidentification.

**Sora, *Porzana carolina* (Linnaeus)**

The Sora breeds in suitable areas along the west James Bay and southern Hudson Bay coasts. Drexler obtained a specimen at Moose Factory on August 26, 1860 (Turner, 1886, p. 248). Spreadborough (Macoun & Macoun, 1909, p. 151) found the Sora breeding there on June 9, 1896, and on July 10, 1904, he found a nest with ten eggs on the west coast of James Bay. Between June 3 and 4, 1947, I saw three Soras (two collected) among the cattails at North Point. Murray (1859, p. 225) received a specimen from Severn House, Bell (1882) procured one at York Factory, and Comeau (1915) saw a young Sora at Marsh Point on September 9, 1914. "The Little American Water Hen", figured and described by Edwards (1750, p. 144) from a specimen brought from Hudson Bay by Isham, formed the basis of Linnaeus's description of *Rallus carolinus* (A.O.U. 1931).

**Yellow Rail, *Coturnicops noveboracensis noveboracensis* (Gmelin)**

The Yellow Rail probably breeds in the marshes bordering the west James Bay and southern Hudson Bay coasts, and Todd (1943) says that it is locally common on the southern shore of James Bay. Waller, who

collected a specimen at Moose Factory on June 2, 1930, says that D. Sailless, an Indian from there, found a nest containing many eggs (Baillie & Harrington, n.d.). On September 25, 1947, Hewitt saw a Yellow Rail on Ship Sands, and on June 17, 1949, Macpherson saw two (one collected), and I saw one there. We heard several others among the long grass. Hutchins, writing about 1777 (Swainson & Richardson, 1831, p. 402), says that the Yellow Rail inhabited the marshes at the mouth of Severn River from the middle of May to the end of September. Preble (1902, p. 93) heard about twelve, flushed five, and collected three Yellow Rails at Beacon Point during the afternoon of July 13, 1900.

**American Coot, *Fulica americana americana* Gmelin**

An American Coot was collected at Moose Factory in 1926 by Waller (Baillie & Harrington, n.d.), and another by Hugh Conn at Fort Severn, where he says they were very rare (Norris-Elye, 1933).

**Semipalmated Plover, *Charadrius hiaticula semipalmatus* Bonaparte**

Semipalmated Plovers probably breed at most places where there is suitable, dry, sandy ground along both the west James Bay and south Hudson Bay coasts, as well as along the banks of the rivers and sandy shores of inland lakes. Williams (1920) saw a flock of thirty at Moose Factory on August 18, 1919. Hewitt saw several on Ship Sands between May 25 and 28, 1947, and twelve between September 23 and 25. Kelsall and Lemieux found them common at North Point on June 2. Spreadborough (Macoun & Macoun, 1909, p. 207) found them common on the west coast of James Bay in July and August, 1904. In late August and September, 1914, Comeau (1915) saw them "here and there" between Cape Tatnam and Owl River, but they were not abundant. Preble (1902, p. 101) found them breeding on a sandy island in Hayes River, 25 miles above York Factory, on July 10, 1900, and on July 13 he saw a number of adults at Beacon Point. By the end of August when he returned to York Factory, they had all apparently migrated. The Semipalmated Plover is also recorded by Murray (1859, p. 225) from Severn House, and by Bell (1880, 1884) and Swainson and Richardson (1831, p. 367) near York Factory.

The Semipalmated Plovers seen at Ship Sands on May 31, 1947 (See table p. 41), were certainly migrants, as the marshy ground was totally unsuitable for nesting, and none were seen there on June 17 and 18, 1949. Those seen at North Point, Big Piskwanish, and Long Ridge Point were mostly single birds, and some probably remained to nest. Indeed, Kelsall and Lemieux found a nest at Big Piskwanish on June 24, 1947, and at Long Ridge Point a male attempted to lure me away from a supposed nest. Some of the Semipalmated Plovers seen on Island X were probably nesting residents. At Cape Henrietta Maria, almost all the Semipalmated Plovers gave the impression that they had nests or young, mostly the latter, and besides the adults recorded in the table, I saw about fifteen running young, mostly a week to 10 days old. Young still unable to fly were also seen at Shagamu River. At both these places the Semipalmated Plovers were seldom seen away from the gravel ridges near the shore and in that habitat were much more numerous at Cape Henrietta Maria than is indicated by the above figures, which include at least 8 hours in the inland grass marshes.

The complete absence of Semipalmated Plovers from Raft River and almost complete absence from Little Cape was surprising, as both places afforded dry nesting sites, such as are favoured by this species.

In the following table, the hours given represent the time spent on the barrens at each place.

Place	Date	Hours	Number seen	Number collected
Sandy Island.....	May 29-June 1, 1947	-	several	2
Ship Sands.....	May 31, 1947	3	100	-
North Point.....	June 2-6, 1947	6	20	1
Big Piskwanish.....	June 9-12, 1947	7	28	1
Long Ridge Point.....	June 14-16, 1947	5	24	1
Houston Point.....	June 30-July 1, 1947	1	4	-
Island X.....	July 3, 1947		Total population: 16	
Cape Henrietta Maria.....	July 20-24, 1947	16	200	+ 3 + 3 downy
Little Cape.....	July 31, 1947	8	1	-
Shagamu River.....	Aug. 8-14, 1947	7	24	-
Cape Tatnum.....	Aug. 22-28, 1947	9	274	-

#### Killdeer, *Charadrius vociferus vociferus* Linnaeus

The Killdeer probably breeds sparsely in suitable locations on the west James Bay and southern Hudson Bay coasts. Waller (Baillie & Harrington, n.d.) found a set of four eggs at Moose Factory on May 26, 1930. At Moosonee, Macpherson counted a total of eight Killdeer in 7 hours' observing between June 25 and July 2, and I counted twenty there in 6 hours' observing between June 30 and July 1, 1949. Four pairs were almost certainly nesting somewhere in the old townsite clearing. On May 27, 1947, Hewitt saw two Killdeer at Ship Sands, and six between September 23 and 25. I saw nine there on June 17, 1949, and Macpherson saw the same number (one collected) between June 17 and 18. In both cases they were in small groups and did not appear to be nesting. I saw a pair of Killdeer at Big Piskwanish on June 11, 1947, and collected the same or another pair the next day. On June 15, I saw two single birds at Long Ridge Point and three pairs feeding on the beach at Cape Duncan between June 26 and 27. Perhaps it was the same pair seen on the three occasions. A single Killdeer seen on August 8 at Shagamu River on the edge of some dry white spruce ridges acted as if it had young in the vicinity. In late August or September, 1914, Comeau (1915) saw a few Killdeer in small bunches between Cape Tatnam and Owl River.

**American Golden Plover, *Pluvialis dominica dominica* (Müller)**

The catalogue of the United States National Museum lists a specimen taken by Haydon at Moose Factory in 1881. On September 23, 1938, Lewis (1939) saw fifteen Golden Plovers at Ship Sands. Hewitt saw three there on September 24, 1947, and I identified the same number during 9 hours' walking on September 9 and 11, 1950. Lewis and Peters (1941) observed three Golden Plovers at Attawapiskat on September 17, 1940. Conn (Norris-Elye, 1933) collected one at Fort Severn, and Bell (1884) was given a specimen at York Factory. Comeau (1915) found them common but never saw large numbers, presumably between Cape Tatnam and Owl River in late August or September, 1914.

**Black-bellied Plover, *Squatarola squatarola* (Linnaeus)**

The Black-bellied Plover is a fairly plentiful migrant along both coasts and apparently used to be extremely abundant in some years. Thus Hearne recorded seeing such large flocks of plovers (probably of this species) at York Factory in the autumn of 1773 that in one afternoon he and two others killed as many as two men could conveniently carry. They were by no means so plentiful there every year, but at Fort Albany several barrels were annually salted for winter use (Tyrrell, 1911, p. 393). J. R. Clare (Blakiston, 1863, p. 138) gave the average number consumed annually at York Factory over a 5-year period (about 1860) as 2,480.

Hewitt, Kelsall, and Lemieux reported them common throughout the summer in southern James Bay in 1947. However, there are no definite breeding records for the west coast, and all those seen by us in May and June appeared to be migrants and were either in loose flocks or feeding in two's or three's along the shore or in the wet grass marshes near the shore. We saw none during the breeding season. Hope and Shortt (1944) saw and heard a few Black-bellied Plovers at the mouth of Albany River on July 15, 1942; at the mouth of Nettichi River, July 16 to 20; and at Big Piskwanish, July 20 to 25. Stirrett saw sixteen at Attawapiskat on October 10. Spreadborough (Macoun & Macoun, 1909, p. 202) found them common on the west coast of James Bay in August, 1904. Lewis and Peters (1941) recorded them on the southern Akimiski coast between September 18 and 20, and say that they were generally distributed in small numbers on the coasts of the southern part of James Bay during the autumn. Comeau (1915) reported that flocks of Black-bellied Plovers were common in late August or September, 1914, presumably between Cape Tatnam and Owl River. Forster (1772, p. 412) received a specimen probably from Fort Albany, and Murray (1859, p. 225) one from Severn House. Swainson and Richardson (1831, p. 370) describe a specimen collected near the mouth of Hayes River on August 14, 1822, and Bell (1884) was given one at York Factory.

In the table below, the hours given are those spent collecting on the barrens. Twenty of the Black-bellied Plovers seen at Shagamu River were in one flock flying over. The fifteen seen at Cape Tatnam were scattered along the marshes near the shore. All these were adults and probably autumn migrants. The single specimen collected was extremely fat.

Place	Date	Hours	Number seen	Number collected
Ship Sands.....	May 31, 1947	3	50	-
	Sept. 9, 11, 1950	9	40	-
North Point.....	June 2-6, 1947	6	65	1
Big Piskwanish.....	June 9-12, 1947	7	80	-
Long Ridge Point.....	June 14-15, 1947	5	65	-
Shagamu River.....	Aug. 8, 1947	7	22	-
Cape Tatnam.....	Aug. 25-26, 1947	9	15	1

**Ruddy Turnstone, *Arenaria interpres morinella* (Linnaeus)**

Ruddy Turnstones are a regular migrant on the southern Hudson Bay and west James Bay coasts, but they probably do not usually nest there, although Hutchins (Swainson & Richardson, 1831, p. 371) describes the eggs. Kelsall and Lemieux saw Ruddy Turnstones at Sandy Island on June 12, 1947, and at North Point on June 2. At the latter place they had been recorded by Morris (1907, p. 186) about August 1, 1906. Hope and Shortt (1944) observed them first at Big Piskwanish on July 22, when singles and small flocks were moving southward. They continued to be seen until the authors left on July 25, 1942. Specimens have been recorded from Severn River by Forster (1772, p. 412), from Severn House by Murray (1859, p. 225), near the mouth of Hayes River (Swainson & Richardson, 1831, p. 371), from York Factory by Blakiston (1863, p. 130) and Bell (1880, 1884; Macoun, 1900, p. 195).

All those recorded in the following table were in small flocks flying near or feeding on the shore. The fifteen seen at Cape Henrietta Maria and the seven at Cape Tatnam were in single flocks. The hours represent the time spent on the barrens.

Place	Date	Hours	Number seen	Number collected
North Point.....	June 6, 1947	6	10	-
Big Piskwanish.....	June 9-12, 1947	7	20	-
Long Ridge Point.....	June 14-15, 1947	5	13	-
Cape Henrietta Maria.....	July 23, 1947	16	15	-
Shagamu River.....	Aug. 14, 1947	7	5	-
Cape Tatnam.....	Aug. 25, 1947	9	7	2

\*American Woodcock, *Philohela minor* (Gmelin)

Bell (1880) says that he saw a woodcock at York Factory in August, 1879. Two birds which I flushed in dry, wooded country at Cape Tatnam were believed to be Wilson's Snipe and have been entered under that species. They were not clearly seen, however, and it is just possible that they were woodcock. On the other hand, it is more likely that the bird seen by Bell was a snipe.

Wilson's Snipe, *Capella gallinago delicata* (Ord)

Wilson's Snipe breeds rather plentifully just outside the tree limit and in the inland marshes along the west James Bay coast, and probably in reduced numbers along the south Hudson Bay coast. Stirrett saw one on Ship Sands on October 2, 1948, and Hewitt, Kelsall, and Lemieux found them common in the marshes of southern James Bay in September and October, 1947. Lewis and Peters (1941) reported them common in September and rare in October. They recorded them on the south coast of Akimiski Island, on Ship Sands, and at Attawapiskat, where forty-seven were seen in one flock on September 17, 1940. Kelsall and Stirrett saw six or seven near the southwest point of Akimiski Island on October 5, 1948. In 1904, Spreadborough (Macoun & Macoun, 1909, p. 163) found Wilson's Snipe breeding from Missinabi north to Cape Henrietta Maria.<sup>1</sup> In 1947 and 1949, we could often see and hear Wilson's snipe flying high over the thickets behind our camp at Sandy Island, and they were undoubtedly nesting in or near the open sedge meadows. At the end of June, 1949, at least two behaved as though they had nests in the marsh beside Moosonee River road, almost within the village. In neither year were any seen on Ship Sands. At North Point, Long Ridge Point, the Raft River, and latitude  $53^{\circ} 45'$ , Wilson's Snipe usually flushed from the grass marshes just within the tall willow scrub. At Lake River, they were seen in the more open grass marshland.

In the following table the hours given are for the time spent in marshes near or within the edge of the thicket where Wilson's Snipe was likely to be seen.

Place	Date	Hours	Number seen	Number collected
Moosonee.....	June 30-July 1, 1949	2	7	-
Sandy Island.....	June 1, 1947	-	-	1
	June 15-29, 1949 (Macpherson).....	$2\frac{1}{2}$	5	-
	June 15-29, 1949	10	34	1
	Sept. 8-10, 1950	4	200	2
North Point.....	June 4, 1947	6	4	-
Long Ridge Point.....	June 14, 1947	4	8	-

<sup>1</sup>This is probably a general expression meaning somewhere north of Lake River. He does not appear to have quite reached the actual cape (See O'Sullivan, 1905).

Place	Date	Hours	Number seen	Number collected
Cape Duncan.....	June 26-27, 1947	3	6	-
Raft River.....	July 9, 1947	4	3	-
Lat. 53°45'.....	July 14, 1947	2	8	1
Lake River.....	July 17, 1947	7	25	3
Cape Tatnam.....	Aug. 27-28, 1947	-	4	-

\***Great Snipe, *Capella media* (Latham)**

The type specimen of *Scolopax leucurus* Swainson from "Hudson's Bay" (Swainson & Richardson, 1831, p. 501) later identified by Sharp (1896, p. 628; Coues, 1897a) as *Gallinago major* (= *Capella media*) may have come from the region under discussion.

**Hudsonian Curlew, *Numenius phaeopus hudsonicus* Latham**

The Hudsonian Curlew nests on the coastal barrens at Lake River and probably in suitable places along the southern Hudson Bay coast. Kelsall and Lemieux saw several at Sandy Island on July 29, 1947, and Morris (1907, p. 186) observed a number of Hudsonian Curlews at North Point about August 1, 1906. At Nettichi River, Hope and Shortt (1944) saw many Hudsonian Curlews migrating southward on July 17, 1942, and from that date until the conclusion of their observations at Big Piskwanish on July 25, the migration of curlews in flocks of rarely over fifty individuals continued unabated. All the fifteen specimens taken were adults, and males predominated. At Lake River on July 17, 1947, I collected a pair of Hudsonian Curlews and their three downy young. The fourth downy, which had only just pipped the egg, could not be preserved. The nest was on a moderately dry ridge among some scattered dwarf birch about three feet high. There was at least one other pair of Hudsonian Curlews nesting at Lake River, as well as about sixty-five apparently non-breeding birds, most of which were in flocks up to twenty-five. Murray (1859, p. 225) received a specimen from Severn House. Between July 25 and 27, 1947, I saw seven on the coastal barrens at Cape Tatnam. Latham's description (1790, p. 712) of *Numenius hudsonicus* was probably based on a specimen in his collection received from Hutchins (Latham, 1787, p. 243).

**Eskimo Curlew, *Numenius borealis* (Forster)**

The Eskimo Curlew is now nearly or quite extinct (A.O.U., 1931). The type specimen described by Forster (1772, pp. 411, 431) came from Fort Albany. He says it "visits Albany Fort in April or beginning of May; breeds to the northward of it, returns in August, and goes away southward again the latter end of September." Hearne (Tyrrell, 1911, p. 390) says it frequented the coasts of Hudson Bay.

\***Upland Plover, *Bartramia longicauda* (Bechstein)**

In 1914, Comeau (1915) reported this species fairly abundant, presumably on the coast between Cape Tatnam and Owl River. This record is strengthened by Preble's observation (1902, p. 99) of Upland Plovers north of Churchill, August 10 to 13, 1900, but it has not been recorded from Churchill (Taverner & Sutton, 1934), and the possibility of misidentification must therefore be considered.

**Spotted Sandpiper, *Actitis macularia* (Linnaeus)**

Spotted Sandpipers probably nest along the banks of all the main rivers in the area and perhaps also on the shores of the larger inland lakes. Williams (1920) saw several almost every day during his trip down Moose River in 1919. He collected one at the mouth of French River on August 21. In 1887, Haydon collected one at Moose Factory (Preble, 1902, p. 100). In 1949, Spotted Sandpipers were fairly numerous along the banks of Moose River, but we saw none away from the river and creeks. On June 27, Macpherson saw eight in  $1\frac{1}{2}$  hours' walk around Haysey Island, and on June 21 we saw an average of one every hundred yards as we went by canoe along Langland's Gutway and the small creek parallel to the channel between Ship Sands and Sandy Island. They were less numerous elsewhere. Near the river bank on Sandy Island, I counted fifteen and Macpherson six during our stay between June 15 and 29. One of these probably had a nest a little way from our camp. On May 27, 1947, Hewitt saw three Spotted Sandpipers on Ship Sands, I saw five there on June 17, 1949, and Macpherson twelve between June 17 and 18. Spreadborough (Macoun & Macoun, 1909 p. 197) reported them common from Missinabi to Cape Henrietta Maria in 1904, but presumably this means only near the river mouths (See footnote 1, p. 44). Williams (1921) says that they were common throughout his trip down Albany River, and we noted six between the river mouth and Fort Albany on June 17 and 18, 1947, and five along the banks of Attawapiskat River on June 22. Between July 8 and 12, I saw twenty-six (one collected) inland along the banks of Raft River and on the barrens near its mouth. About a mile up the river, one was regularly flushed each time we passed a thick patch of low willow, where it doubtless had a nest or young. I saw five near the mouth of Shagamu River between August 8 and 12, and three while going up Severn River to the post on August 15. Bell (1884) obtained a specimen from York Factory. On July 9 and 10, 1900, while Preble (1902, p. 99) was descending the Steel and Hayes Rivers to York Factory, one or more pairs were constantly in sight, and young unable to fly were often seen running along the river banks. In late August or September, 1914, Comeau (1915) found Spotted Sandpipers common along the rivers, presumably between Cape Tatnam and Owl River.

**Eastern Solitary Sandpiper, *Tringa solitaria solitaria* Wilson**

A Solitary Sandpiper was collected at Moose Factory by McKenzie (Preble, 1902, p. 99), and on May 27, 1947, Hewitt saw one on Sandy Island. On July 13, 1947, two Solitary Sandpipers, which possibly had a nest, were flushed from a marsh about a mile inside the spruce forest at Raft River. One of these, a male with an apparent incubating patch, was collected (wing chord, 126 mm.; culmen, 28 mm.). On July 7, 1947, Coates collected an unsexed specimen from Charlton Island (wing chord, 126 mm.; culmen, 29 mm.). Both specimens are clearly referable to

*T. s. solitaria* on the criteria given by Conover (1944). Conover also refers to this race, three specimens from Kwatabohegan River<sup>1</sup>, Moosonee, and six from the vicinity of James Bay in Ontario. The outer primaries of the three Moosonee specimens (shot July 20) are not quite fully grown, and, as Conover observes, are an indication that the species breeds in that vicinity. Comeau reported the Solitary Sandpiper along the creeks and rivers between Cape Tatnam and Owl River, and the single specimen obtained by Rae and listed by Sharpe (1896, p. 447) as from Repulse Bay was very likely taken near York Factory (See Introduction p. 3). It is uncertain which race is represented along this part of the southern Hudson Bay coast, since Taverner and Sutton (1934) and Conover (1944) refer six specimens from Churchill to *T. s. cinnamomea*, while two from Ilford (140 miles west-southwest of York Factory) are referred to *T. s. solitaria* (Conover, 1944).

\* **Green Sandpiper, *Tringa ochropus* Linnaeus**

A Green Sandpiper in the British Museum sent to England from Hudson Bay by the Hudson's Bay Company is mentioned by Swainson and Richardson (1831, p. 392) and by Sharpe (1896, p. 444). It is also discussed by Coues (1897b).

**Greater Yellow-legs, *Totanus melanoleucus* (Gmelin)**

The Greater Yellow-legs is a common migrant along both the James Bay and southern Hudson Bay coasts, and probably nests in the marshes a few miles inland. Occasionally it may also nest on the coastal barrens. On August 20, 1919, Williams (1920) saw two at the mouth of French River, and five on Bushy Island on August 19. The catalogue of the United States National Museum lists one taken at Moose Factory in 1881 (Preble, 1902, p. 98). Kelsall and Lemieux saw one in the Moose River estuary on July 29, 1947; the latter collected a juvenile male on Sept. 1 on Sandy Island; at Ship Sands, Hewitt saw five on September 24, 1947; and Stirrett twenty on October 2, 1948. On September 8, 1950, I saw four along the shore of Sandy Island and fifteen (one collected by Macpherson) next day in 7 hours' walking on the Ship Sands barrens. At Long Ridge Point on June 15, 1947, I saw two (one collected) which appeared to be a pair intending to nest in the vicinity. An adult male and female in the National Museum collection were taken by Johansen on July 3, 1920, between Moose and Albany Rivers. On July 15, 1942, Hope and Shortt (1944) observed about thirty Greater Yellow-legs on Albany Island and continued to see large numbers until they reached Moose River on July 25. They collected seven specimens, all adults. Williams (1921) found the Greater Yellow-legs "... Generally common from the mouth of the Pagwachuan River to Fort Albany between August 3rd and September 6th, 1920, after which none were observed . . ." Lewis and Peters (1941) recorded it from the southern coast of Akimiski Island between September 18 and 20, 1940, and state that it was common and generally distributed in southern James Bay. Stirrett recorded forty-three near the southwest point of Akimiski Island between October 4 and 5, and twenty at Attawapiskat between October 10 and 13, 1948. On July 17, 1947, I saw four (one collected) at Lake River; two of these, observed on a marsh among some dwarf birch scrub, appeared to be a nesting pair; the other two were with a flock of Lesser Yellow-legs. At Cape Henrietta

<sup>1</sup> This river joins Moose River 11 miles above Moosonee.

Maria the twenty-five Greater Yellow-legs seen between July 20 and 24 were in small flocks, usually feeding near the shore. Some of the Yellow-legs seen in the distance at Little Cape may have been the large species, but all that were seen closely enough for identification were Lesser Yellow-legs. Murray (1859, p. 225) received a specimen of the Greater Yellow-legs from Severn House. I saw fifty-four (two collected) Greater Yellow-legs between August 8 and 14 at Shagamu River, and 300 between August 22 and 28 at Cape Tatnam. At both places they were in loose flocks or more often single or in two's or three's which were sometimes mixed with flocks of Lesser Yellow-legs. Two-thirds were juveniles. Except for a few flying at Cape Tatnam, we observed no Greater Yellow-legs within the edge of the spruce or taller willow thickets. Preble (1902, p. 98) saw several Greater Yellow-legs on the beach near York Factory on July 13, 1900, and a great many on August 29 and 30 while ascending Hayes River from York Factory to Shamattawa River. Bell (1880, 1884) obtained a specimen at York Factory.

**Lesser Yellow-legs, *Totanus flavipes* (Gmelin)**

In 1947 non-breeding or migratory adult Lesser Yellow-legs were common on the west coast of James Bay, but none of them showed signs of having nests. In 1904, however, Spreadborough (Macoun & Macoun, 1909, p. 187) saw young on the wing there early in July. Probably they had come from inland marshes. The juvenile Yellow-legs which we saw on the southern Hudson Bay coast had also very probably been hatched a few miles inland. The catalogue of the United States National Museum lists a Lesser Yellow-legs taken at Moose Factory in 1881 (Preble, 1902, p. 89). Hewitt saw several at Ship Sands between September 23 and 25, 1947. Hope and Shortt (1944) saw this species, which was less abundant than the Greater Yellow-legs, from the mouth of Albany River on July 15 to the conclusion of their trip at Moose River on July 25, 1942. Stirrett saw two at Attawapiskat on October 7, 1948. Murray (1859, p. 225) received a specimen from Severn House, and Bell (1880) reports them common throughout the Norway House, York Factory, and Churchill district. Almost all the Lesser Yellow-legs which we saw at Little Cape and earlier were in flocks. At Shagamu River and Cape Tatnam, at least two-thirds were juveniles. At these two places, most of the Lesser Yellow-legs were in loose groups rather than in flocks, and many of them were flying singly or in two's and three's.

In the following table, the hours given represent the time spent on the barrens; no Lesser Yellow-legs were seen within the borders of the spruce and willow thickets.

Place	Date	Hours	Number seen	Number collected
Big Piskwanish.....	June 10, 1947	7	20	4
Long Ridge Point.....	June 15, 1947	6	100	2
Lake River.....	July 17, 1947	6	40	1
Cape Henrietta Maria.....	July 20-24, 1947	16	150	—
Little Cape.....	July 28-	13	210	—
	Aug. 1, 1947			
Shagamu River.....	Aug. 8-14, 1947	10	400	2
Cape Tatnam.....	Aug. 22-28, 1947	11	100	—

\***Redshank**, *Totanus totanus* subsp.

A Redshank in the British Museum said to have been taken in Hudson Bay is mentioned by Swainson and Richardson (1831, p. 391) and discussed by Coues (1879c). The origin of this specimen may well have been within the area covered by this paper.

**American Knot**, *Calidris canutus rufus* (Wilson)

Hope and Shortt (1944) first observed knots at Big Piskwanish on July 20, 1942. From that date until the authors left on July 25, huge migratory flocks, some numbering 200 to 500 birds, were seen. Six males and five females, all adults in varying degrees of moult, were collected. Hutchins (Swainson & Richardson, 1831, p. 387) was apparently familiar with their eggs.

\***Purple Sandpiper**, *Erolia maritima* (Brünnich)

Swainson and Richardson (1831, p. 382) describe a male killed at Hudson Bay on July 29, 1822. It may be presumed that this specimen was taken at the mouth of Hayes River, since Richardson obtained other sandpipers there on the same date.

**Pectoral Sandpiper**, *Erolia melanotos* (Vieillot)

The Pectoral Sandpiper is a very common migrant and probably a summer resident from Lake River northward, although many of the birds, even those observed in late July, clearly do not nest in the region, and there is as yet no definite breeding record. A specimen collected at Moose Factory in 1881 by Haydon is recorded in the United States National Museum collection (Preble, 1902, p. 96). Hewitt saw two Pectoral Sandpipers at Ship Sands on May 27, 1947, and found them common there from September 22 to 25. On October 2, 1948, Stirrett saw 150 on Ship Sands. They were first seen by Hope and Shortt (1944) in small flocks at the mouth of Nettichi River on July 17, 1942. After that, their numbers increased, and on July 23 and 24 many flocks, numbering several hundreds, were seen at Big Piskwanish. Six specimens were collected.

The Pectoral Sandpipers which I saw at Lake River were in two flying flocks of about forty-five each. At Cape Henrietta Maria, their numbers were equally divided between the flat shore and the inland grass marshes. Those along the shore were more inclined to be in flocks; those inland, in two's and three's or some other small number. I thought that about five per cent might be nesting or have young,<sup>1</sup> and the only female collected had an incubating patch. At Little Cape, there were a few Pectoral Sandpipers scattered over the long-grass marshes, especially at the edge of lakes, but by far the greater number were feeding on the tidal grass flats along the edge of the estuary. Two females were collected, and one of these had an incubating patch which was becoming refeathered. At Shagamu River and Cape Tatnam, the Pectoral Sandpipers were all in small flocks near the shore. Their numbers appeared to decrease towards the end of our stay. Most of the Pectoral Sandpipers collected were very fat.

<sup>1</sup> A half-fledged juvenile Stilt Sandpiper from here was unfortunately misidentified in my preliminary report (Manning, 1947) as a Pectoral Sandpiper.

The hours given in the following table represent the time spent on the coastal barrens. No Pectoral Sandpipers were seen within the borders of the main willow thickets.

Place	Date	Hours	Number seen	Number collected
Lake River.....	July 17, 1947	3	90	1
Cape Henrietta Maria.....	July 20-24, 1947	16	1,000	5 + 1 juv.
Little Cape.....	July 29-Aug. 1, 1947	8	700	7
Shagamu River.....	Aug. 9-14, 1947	7	90	-
Cape Tatnam.....	Aug. 22-24, 1947	9	25	-

#### White-rumped Sandpiper, *Erolia fuscicollis* (Vieillot)

The White-rumped Sandpiper is a common migrant on both the west James Bay and south Hudson Bay coasts, and probably a summer resident at Cape Henrietta Maria, where a few pairs may breed. Hewitt identified several on Ship Sands between September 22 and 25, 1947. Spreadborough (Macoun & Macoun, 1909, p. 173) observed flocks of White-rumped Sandpipers on the west coast of James Bay in August, 1904. Hope and Shortt (1944) saw White-rumped Sandpipers only on rare occasions between the mouths of the Albany and Moose Rivers, July 15 to 25, 1942. Lewis and Peters (1941) recorded them on Akimiski Island between September 18 and 20, 1940.

Most of the White-rumped Sandpipers seen by me at Cape Henrietta Maria were in small flocks near the shore. About ten showed signs of having nests, although no nests were found and the birds were not in the same areas the next day. The two females collected had well-marked incubating patches. At Little Cape, they were feeding in flocks, sometimes mixed with Semipalmated Sandpipers on the short-grass flats, but at Shagamu River, they were chiefly on the outer and larger areas of mud flats. The proportion of White-rumped to other sandpipers appeared to increase during our stay at Shagamu River.

The hours given in the following table represent the time spent on the coastal barrens.

Place	Date	Hours	Number seen	Number collected
Cape Henrietta Maria.....	July 20-24, 1947	16	65	2
Little Cape.....	July 30- Aug. 1, 1947	8	84	3
Shagamu River.....	Aug. 9-14, 1947	7	420	-
Cape Tatnam.....	Aug. 23-24, 1947	9	11	-

#### Baird's Sandpiper, *Erolia bairdii* (Coues)

Hope and Shortt (1944) occasionally saw one or two Baird's Sandpipers in company with other sandpipers between the mouths of Albany and Moose Rivers, July 15 to 25, 1942. Lewis and Peters (1941) recorded them with other sandpipers near the central south coast of Akimiski Island on September 18, 1940.

**Least Sandpiper, *Erolia minutilla* (Vieillot)**

The Least Sandpiper nests along the coastal barrens of both the west James Bay and southern Hudson Bay coasts. In the autumn, its numbers are increased by migrants, most of which have probably nested on the inland marshes. It was seen at Sandy Island by Kelsall and Lemieux on June 12, 1947, and at North Point on June 2. On Ship Sands, Hewitt saw one on May 27, and again occasionally between September 22 and 25. Hope and Shortt (1944) observed an occasional small flock of Least Sandpipers between the Albany and Moose Rivers, July 15 to 25, 1942, but more frequently they were in pairs and singles feeding quietly by the brackish pools. Least Sandpipers were abundant on the tide flats at the mouth of Nelson and Hayes Rivers, where a specimen was collected on July 21, 1822 (Swainson & Richardson, 1831, p. 385). Comeau (1915) saw immense flocks between Cape Tatnam and Owl River in late August or September, 1914. It seems probable, however, that many of these may have been Semipalmated Sandpipers, which is a species he does not list.

Some of the 200 small sandpipers I saw at Ship Sands and have referred to this species in the following table may have been Semipalmated Sandpipers, but in spite of careful observation, none were identified. The two Least Sandpipers seen at Long Ridge Point were among the long grass near the edge of the beach and may have been nesting; the same applies to those seen at Lake River. Most of those at Cape Henrietta Maria were definitely nesting. On July 22, one set of young was taken from the nest and the male parent collected. He had been incubating and showed great concern when disturbed. On the same day, another brood of three, a day or so old, was collected at Cape Henrietta Maria. Most of the Least Sandpipers at Little Cape were still around the long grass, and several appeared to have young. At Shagamu River, the Least Sandpipers, most of which were juvenile, were feeding in flocks on the mud flats and grass marshes. It was noticeable that they kept to the smaller patches of mud flats and rather more inland than the Semipalmated Sandpipers. A large number of flocks of Semipalmated Sandpipers at Cape Tatnam were carefully examined, but I saw no Least Sandpipers among them. In the following table, the hours given represent the time spent on the coastal barrens.

Place	Date	Hours	Number seen	Number collected
Ship Sands.....	May 31, 1947	3	200	1
North Point.....	June 5, 1947	-	-	1
Long Ridge Point.....	June 15, 1947	5	2	1
Lake River.....	July 17, 1947	3	12	1
Cape Henrietta Maria.....	July 20-24, 1947	16	85	4 + 7 downy
Little Cape.....	July 29- Aug. 1, 1947	8	10	1 juv.
Shagamu River.....	Aug. 9-14, 1947	7	300	2

**Red-backed Sandpiper, *Erolia alpina pacifica* (Coues)**

The Red-backed Sandpiper is a plentiful migrant on the southern Hudson Bay coast and probably also on the west James Bay coast. Some nest at Cape Henrietta Maria and perhaps at other places on the coastal barrens. Hewitt found them common on Ship Sands between May 26 and 28, 1947, and Kelsall and Lemieux saw several at North Point on June 2. Between Albany and Moose River, Hope and Shortt (1944) observed small numbers nearly every day from July 15 to 25, 1942. Red-backed Sandpipers were recorded by Lewis and Peters (1941) on the south coast of Akimiski Island between September 18 and 20, 1940, and Stirrett saw about 600 (one collected) in large flocks on the mud flats near the southwest point of that island on October 4, 1948.

The Red-backed Sandpipers that I saw at Ship Sands on May 31, 1947, were in flocks waiting to migrate farther north. On June 17, 1949, we saw none at Ship Sands. At Cape Henrietta Maria, 95 per cent of the Red-backed Sandpipers were in flocks near the edge of the flat shore; the remainder were in the inland grass marshes and probably nesting. One brood of four was collected from the nest on July 21. The male parent was incubating and attempted to lead me away. The female appeared only after its mate had been collected. At Little Cape, all the Red-backed Sandpipers were feeding on the short grass at the edge of the estuary. Unlike the Pectoral Sandpipers, all the Red-backed Sandpipers collected at Cape Henrietta Maria and Little Cape were almost without fat. The first juvenile Red-backed Sandpipers were seen on August 11. From then on, about two-thirds were juveniles.

The hours given in the table represent the time spent on the coastal barrens.

Place	Date	Hours	Number seen	Number collected
Ship Sands.....	May 31, 1947	3	1,000	1
Cape Henrietta Maria.....	July 20-24, 1947	16	900	7 + 4 downy
Little Cape.....	July 29- Aug. 1, 1947	8	330	4
Shagamu River.....	Aug. 11-14, 1947	7	25	2 juv.
Cape Tatnam.....	Aug. 22, 1947	9	10	-

**Inland Dowitcher, *Limnodromus griseus hendersoni* Rowan**

The Inland Dowitcher occurs as a plentiful autumn migrant on the southern Hudson Bay coast. At Shagamu River, I saw sixty-five Dowitchers in 7 hours' walking on the coastal barrens between August 8 and 14, and at Cape Tatnam, 200 in 9 hours between August 23 and 28, 1947. At both places they were feeding in flocks of five to fifty, either at the edge of the mud flats or on the grass marshes. They were extremely tame, and all appeared to be juveniles. Our five juveniles from Shagamu

River and Cape Tatnam agree well with specimens from Churchill which Rowan (1932) and Pitelka (1950, p. 35) include within the breeding range of *L. g. hendersoni*, and both our specimens and the Churchill juveniles can be separated from the six comparable specimens of *L. g. griseus* in the National Museum, taken near the Atlantic seaboard from Massachusetts northward, by the brighter and wider buffy edgings on the dorsal surface of the former. On the average, the dark spots on the throat, breast, and sides of juvenile *L. g. hendersoni* appear to be less numerous and less clear than on *L. g. griseus*. Measurements of four juvenile ♂♂ from Cape Tatnam: wing chord, 138 (137-140) mm.; culmen, 56 (53-60) mm.; tarsus, 36.4 (35-37.3) mm.; one juvenile ♀ from Shagamu River: wing chord, 143 mm.; culmen, 62 mm.; tarsus, 37 mm.

**Dowitcher, *Limnodromus griseus* subsp.**

Morris (1907, p. 186) saw a number of Dowitchers at North Point about August 1, 1906, and Sharpe (1896, p. 399) lists an adult specimen from Port [Fort] Albany. Pitelka (1950, p. 42) identifies a male with incubating patch collected by Hope on the Nettichi River on July 16, 1942, as *L. g. griseus* or an intergrade between that race and *L. g. hendersoni*; and an adult female collected on May 17, 1930, at Moose Factory, as a probable intergrade between the two races.

**Stilt Sandpiper, *Micropalama himantopus* (Bonaparte)**

I saw five adult Stilt Sandpipers between July 20 and 23, 1947, at Cape Henrietta Maria. Four were collected and proved to be males. Two of these appeared to have nests or young near the limestone ridges, and I collected a half-fledged juvenile. Between August 23 and 25 at Cape Tatnam, I saw thirty Stilt Sandpipers (three juveniles collected) in small flocks, usually feeding at the edge of the brackish pools. About half were juveniles.

In 1882 Richardson (Swainson & Richardson, 1831, p. 380) took several specimens on the flats at the mouth of Hayes River.

**Semipalmated Sandpiper, *Ereunetes pusillus* (Linnaeus)**

The Semipalmated Sandpiper is an abundant migrant on the west James Bay and southern Hudson Bay coasts, and probably breeds at Cape Henrietta Maria and westwards on the barren coastal areas of the southern Hudson Bay coast. A specimen taken at Moose Factory in 1881 is recorded in the United States National Museum (Preble, 1902, p. 97). In 1947, between May 26 and 28, Hewitt saw several Semipalmated Sandpipers at Ship Sands, where he again saw them occasionally between September 22 and 25. Kelsall and Lemieux recorded them at North Bluff on June 2. From July 15 to 25, 1942, the Semipalmated Sandpiper was the most abundant species migrating along the shore between Albany and Moose Rivers, and some of the flocks contained up to 4,000 or 5,000 birds (Hope and Shortt, 1944). In 1940, Lewis and Peters (1941) recorded it on southern Akimiski Island between September 18 and 20. Hutchins (Swainson & Richardson, 1831, p. 381), writing about 1770, says that they arrived in large flocks at Severn River about mid-May, nested early

in June, and left for the south in September. Preble (1902, p. 97) found it common on his way south to York Factory, where he arrived on August 26, 1900.

Most of the Semipalmated Sandpipers listed for North Point in the table below were in two large flocks which seemed just to have arrived. Those seen at Big Piskwanish and Long Ridge Point were almost entirely in flocks feeding on the mud flats. At Akimiski Island and Raft River, we saw no Semipalmated Sandpipers on the deserted mud flats. Possibly 5 per cent of the Semipalmated Sandpipers seen at Cape Henrietta Maria were breeding there, although in no case did I note unmistakable nesting behaviour. Most of the birds were in flocks near the low shore of the tidal bay. Apparent incubating patches were noted on the six specimens collected at Cape Henrietta Maria, but they were commencing to moult and already had new grey feathers on the back. At Little Cape, all the Semipalmated Sandpipers were on the mud flats or tidal grass border. At Shagamu River they were on the mud flats in flocks which often fed with the White-rumped and Pectoral sandpipers but were not seen to mix with the Least, which kept a little farther inland. Semipalmated Sandpipers were seen only on the coastal barrens at each place except Cape Tatnam, where two small flocks were feeding on the open marshes inside the edge of the spruce. The times in the following table therefore represent the hours spent on the coastal barrens except for Cape Tatnam, where the one hour on the inland marshes is also included.

Place	Date	Hours	Number seen	Number collected
North Point.....	June 6, 1947	6	300	4
Big Piskwanish.....	June 9-12, 1947	7	260	-
Long Ridge Point.....	June 14-16, 1947	5	450	2
Island X.....	July 3, 1947		Total population: 2	
Cape Henrietta Maria.....	July 20-24, 1947	16	400	6
Little Cape.....	July 30- Aug. 1, 1947	8	30	1
Shagamu River.....	Aug. 8-14, 1947	7	550	1 juv.
Cape Tatnam.....	Aug. 22-28, 1947	10	565	-

#### Marbled Godwit, *Limosa fedoa* (Linnaeus)

A specimen of the Marbled Godwit from Moose Factory is recorded in the United States National Museum catalogue (Preble, 1902, p. 97). Spreadborough (Macoun & Macoun, 1909, p. 183) reported it breeding on both sides of James Bay in 1904. In 1947 I collected the male of an apparent pair on the coastal marsh at North Point on June 3 and another on June 23 on the mud flats near the central south coast of Akimiski Island.

A few minutes later, another was seen at the same place. Latham (1787, p. 246) received a specimen from Hutchins, Linnaeus's description of *Scolopax Fedoa* (A.O.U., 1931) is based on Edwards (1750, p. 137), who described and figured under "The Greater American Godwit" a specimen which was brought from Hudson Bay by Isham.

**Hudsonian Godwit, *Limosa haemastica* (Linnaeus)**

This species is a rather plentiful autumn migrant along both the southern Hudson Bay and the west James Bay coasts. The adults, or at least a large number of them, apparently precede the young in their southward migration. Spreadborough (Macoun & Macoun, 1909, p. 185) observed large flocks on the west coast of James Bay, where he says it was apparently breeding north to Cape Henrietta Maria. Hope and Shortt (1944) observed two Hudsonian Godwits at Big Piskwanish on July 20, 1942. On July 23, a number of flocks, totalling at least 1,000 birds, passed their camp, and next day they saw about 200 migrating. Six males and four females were collected there, and all that could be distinguished were adults. Latham (1789, p. 247) obtained a specimen from Hutchins. I saw a probable pair in a marsh at the southeast point of Akimiski Island on June 26, 1947, twenty juveniles at Shagamu River on August 11, and thirty on August 14. Three of the latter were collected. They were in small flocks. Two small flocks were seen flying over the sea on our way to Cape Tatnam. At Cape Tatnam, I saw 240 between August 22 and 27 (five collected). All were juveniles. Hearne (Tyrrell, 1911, p. 391) says, ". . . they fly in such large flocks, and so close to each other, that I have often killed upwards of twelve at one shot; and Mr. Atkinson, long resident at York Fort, actually killed seventy-two at one shot; . . .". "The Red-breasted Godwit", figured and described by Edwards (1750, p. 138) from a specimen brought from Hudson Bay by Isham, formed the basis of Linnaeus's description of *Scolopax Haemastica* (A.O.U., 1931).

**Sanderling, *Crocethia alba* (Pallas)**

The Sanderling is at times a plentiful autumn migrant on the west James Bay coast and occurs occasionally on the south Hudson Bay coast. Hutchins (Swainson & Richardson, 1831, p. 366) reported that it bred in the marshes on the Hudson Bay coast as far south as the 55th parallel. On September 12, 1950, we saw two (a female collected) on the beach at Sandy Island. Hewitt saw several at Ship Sands between September 22 and 25, 1947, and Stirrett recorded twenty-five there on October 2, 1948. Hope and Shortt (1944) found them an abundant migrant on the coast between Albany and Moose Rivers throughout the period of their observations, July 15 to 25, 1942. At Big Piskwanish, they saw flocks containing several hundred individuals. Five males and one female were collected. Lewis and Peters (1941) recorded Sanderlings on the southern coast of Akimiski Island between September 18 and 20, 1940, and on October 4, 1948, Stirrett saw fifteen near the southwest point of the island, where they remained on the mud flats during his three-day stay. We saw Sanderlings only at Cape Tatnam, where I counted eleven (one collected) feeding on the mud flats between August 24 and 27, 1947.

\***Red Phalarope, *Phalaropus fulicarius* (Linnaeus)**

Blakiston (1863, p. 131) received a specimen from Hudson Bay [probably from York Factory]. "The Red Coot-footed Tringa" figured and described by Edwards (1750, p. 142) from a specimen brought from Hudson Bay by Isham, was the basis of Linnaeus's description of *Tringa Fulicaria* (A.O.U. 1931).

**Northern Phalarope, *Lobipes lobatus* (Linnaeus)**

The Northern Phalarope is apparently a rather uncommon migrant on the west James Bay coast, but it nests on the barrens at Cape Henrietta Maria and Little Cape. All the Northern Phalaropes recorded in the table for Long Ridge Point were feeding at the sea edge, but, with the exception of about four females, all those seen at Cape Henrietta Maria and at Little Cape were males and probably had nests or young. At Little Cape, five Northern Phalaropes were seen on the tidal grassland for the first time on August 1, and I think they were just beginning to move down to the shore with their young. Between Winisk and Shagamu Rivers we saw two flocks at sea. At Shagamu River and Cape Tatnam, they were feeding in the small brackish pools near the shore.

The hours given in the following table represent the time spent on the barrens.

Place	Date	Hours	Number seen	Number collected
Long Ridge Point.....	June 15, 1947	6	15	1
Cape Henrietta Maria.....	July 20-24, 1947	16	120	4
Little Cape.....	July 29- Aug. 1, 1947	8	50	3 + 6 downy
Shagamu River.....	Aug. 9-11, 1947	7	25	1
Cape Tatnam.....	Aug. 22-27, 1947	9	40	-

Murray (1859, p. 225) received a specimen from Severn House, and Preble (1902, p. 94) saw Northern Phalaropes daily between August 14 and 26, 1900, while he was returning along the coast to York Factory from Churchill. "The Cock Coot-footed Tringa", figured and described by Edwards (1750, p. 143) from a specimen brought from Hudson Bay by Isham, formed the basis of Linnaeus's description of *Tringa tobata* (A.O.U. 1931).

\***Pomarine Jaeger, *Stercorarius pomarinus* (Temminck)**

A bird called *Keash*, "discovered by Mr. Hutchins" in Hudson Bay, is described by Pennant (1787, p. 71) and Latham (1785, p. 389; 1790, p. 818). Preble (1902, p. 78) and Ridgway (1919) have taken this to be the Northern Skua, *Catharacta skua* Brünnich, but it could also have been a young Pomarine Jaeger, which species has been recorded from Churchill

(Taverner & Sutton, 1934) and is the more probable bird in this area. Richardson (Swainson & Richardson, 1831, p. 429) gives "Esquimaux Keask" of the Hudson Bay residents in his synonymy of this species.

**Parasitic Jaeger, *Stercorarius parasiticus* (Linnaeus)**

Spreadborough saw several Parasitic Jaegers on the west coast of James Bay, presumably between July and September, 1904, not May, 1903, as given by Macoun and Macoun (1909, p. 31).

In the following table the hours represent the time I spent on the coastal barrens where all the Parasitic Jaegers were seen.

Place	Date	Hours	Number seen	Number collected
North Point.....	June 3-6, 1947	6	3	-
Big Piskwanish.....	June 1, 1947	7	2	-
Long Ridge Point.....	June 14, 1947	8	2	-
Lake River.....	July 17, 1947	6	3	-
Cape Henrietta Maria.....	July 22, 1947	16	2	2 + 1 downy
Little Cape.....	Aug. 1, 1947	13	2	-
Cape Tatnam.....	Aug. 28, 1947	12	2	-

The downy Parasitic Jaeger collected at Cape Henrietta Maria was found dead near the nest. The two adults collected were its parents. Their stomachs contained young birds. The two Parasitic Jaegers seen at Little Cape also behaved as if they had a nest and young.

**Long-tailed Jaeger, *Stercorarius longicaudus* Vieillot**

Murray (1859, p. 231) received a specimen from Moose Factory, and Blakiston (1863, p. 152) two from Hudson Bay [York Factory?]. In 1880, Bell (1882, 1884) was given a specimen which had been shot near York Factory. A male, probably the specimen listed by Macoun (1900, p. 30), was later given to the Department of Marine and Fisheries (Nat. Mus. Cat.)

**\*Glaucous Gull, *Larus hyperboreus hyperboreus* Gunnerus**

Spreadborough (Macoun & Macoun, 1909, p. 36) saw a few Glaucous Gulls on the river near Moose Factory in 1904. Perhaps the "pure white gull", 27½ inches long, which Hutchins (Swainson & Richardson, 1831, p. 419) says bred by Albany River, was of this species. Glaucous Gulls apparently occasionally nest on flat ground (Bent, 1947). Comeau (1915) found the Glaucous Gull common in the entrance to Nelson River, probably in mid-August, 1914.

**Herring Gull, *Larus argentatus smithsonianus* Coues**

Wandering Herring Gulls are distributed along the west James Bay and southern Hudson Bay coasts throughout the summer. They nest on rocks or islets in the lakes at Cape Duncan, Cape Henrietta Maria, and probably in similar situations on the larger inland lakes, but perhaps most of the James Bay birds breed on the barren islands in the bay (Cf. Manning, 1950). Hewitt, Kelsall, and Lemieux reported them generally distributed in southern James Bay. Stirrett saw two at Ship Sands on October 2, two at Attawapiskat on October 4, and ten on October 10. On October 4 he saw one adult and fifteen juveniles near the southwest point of Akimiski Island. Lewis and Peters (1941) recorded the Herring Gull on the southern coast of Akimiski Island between September 18 and 20, 1940. Murray (1859, p. 231) received a specimen from Severn House. Blakiston (1862, p. 10; 1863, p. 152) collected a male at York Factory on August 13, 1857.

Most of the Herring Gulls that we saw along the coast in 1947 and in the Moose River estuary in 1949 were very wild and seldom came within gunshot. Only about three first- or second-year birds were seen. The specimen collected in 1947 was probably a third year bird. Others of this age may have been seen in the distance without being distinguished from adults. The 1949 specimen appears to be a second year bird in extremely worn plumage. On June 25, 1947, a nest with two eggs was found at Cape Duncan, and most of the 400 Herring Gulls seen on June 11, 1949, at Gallery Island, a few miles south of the Cape, had probably nested there. We saw large numbers of young which entered the water as soon as we landed. At Cape Henrietta Maria, we saw two nests which had probably been robbed by the Indians.

The hours given in the following table represent the time spent on the barrens. A few Herring Gulls not included in the list were usually seen at sea while we were travelling.

Place	Date	Hours	Number seen	Number collected
Haysey Island.....	June 27, 1949	River bank	1	-
Sandy Island.....	May 30, 1947	-	-	1
	June 14-29, 1949	Mostly camp	8	1
(Macpherson).....	June 14-29, 1949	Camp and river bank	14	-
Sandy Island.....	Sept. 8-10, 1950	Over river	10	-
Ship Sands.....	May 31; 1947	3	10	-
	June 17, 1949	4	1	-

Place	Date	Hours	Number seen	Number collected
Ship Sands (Macpherson).....	June 17, 18, 1949	8	3	-
North Point.....	June 3-6, 1947	6	30	-
Big Piskwanish.....	June 9-12, 1947	7	20	-
Long Ridge Point.....	June 14-16, 1947	8	24	-
Attawapiskat.....	June 22, 1947	Camp	3	-
Cape Duncan.....	June 26-27, 1947	2	10	-
Gallery Island.....	July 11, 1949		Total population, adults: 400	
Houston Point.....	June 30-July 1, 1947	Camp	3	-
Island X.....	July 3, 1947	3	6	-
Raft River.....	July 8-13, 1947	5	12	-
Lake River.....	July 17, 1947	6	2	-
Cape Henrietta Maria.....	July 20-23, 1947	16	14	-
Little Cape.....	July 29-Aug. 1, 1947	13	9	-
Shagamu River.....	Aug. 9-11, 1947	11	3	-
Cape Tatnam.....	Aug. 22-28, 1947	12	8	-

**\*Ring-billed Gull, *Larus delawarensis* Ord**

Hewitt saw a Ring-billed Gull on Ship Sands on September 24, 1947. Comeau (1915) reported them fairly common on the west coast of Hudson Bay, presumably between Cape Tatnam and Owl River in late August or September, 1914, and Preble (1902, p. 79) says they were ". . . rather common in June and July on the inland waters from Lake Winnipeg to Hudson Bay and northward to the barren grounds . . ."

**\*Franklin's Gull, *Larus pipixan* Wagler**

An adult Franklin's Gull from Hayes River is in the British Museum (Saunders & Salvin, 1896).

**Bonaparte's Gull, *Larus philadelphia* (Ord)**

Bonaparte's Gull occurs regularly along both coasts and probably nests a short way inland. Todd (1943) took a female containing a fully developed egg somewhere in James Bay. On May 25, 1947, Hewitt saw twenty-five Bonaparte's Gulls in the estuary of Moose River, and on August 22, three juveniles (now in the National Museum) were collected by Lemieux. Lewis and Peters (1941) saw several at the mouth of Moose River during September or early October, at the mouth of Attawapiskat

River about September 17, and on southern Akimiski Island, September 18 to 20, 1940. Two juvenile males in the National Museum collection were taken by Johansen on July 3, 1920, between Moose River and Albany River. Murray (1859, p. 231) received several specimens from Severn House, and Bell (1882, 1884) was given one from York Factory. Blakiston (1863, p. 153) found Bonaparte's Gulls very common at the mouth of Hayes River, where he collected a male on August 12, 1857 (Blakiston, 1862, p. 10). In the following table the hours given represent the time I spent on the barrens.

Place	Date	Hours	Number seen	Number collected
Ship Sands.....	May 31, 1947	3	4	-
North Point.....	June 6, 1947	6	1?	-
Big Piskwanish.....	June 9-11, 1947	7	6	-
Long Ridge Point.....	June 14, 1947	8	1	-
Attawapiskat.....	July 5, 1947	Camp	15	-
Cape Tatnam.....	Aug. 24, 1947	12	25	2 juv.

The twenty-five Bonaparte's Gulls listed for Cape Tatnam were feeding in one flock, and the fifteen at Attawapiskat flew over in one flock.

#### \*Ivory Gull, *Phagophila eburnea* (Phipps)

A British Museum specimen of an immature Ivory Gull "killed at Hudson's Bay" is described by Swainson and Richardson (1831, p. 419). However, this specimen is more likely to have originated from Churchill or farther north rather than from York Factory or farther south.

#### \*Atlantic Kittiwake, *Rissa tridactyla tridactyla* (Linnaeus)

Sabine (1823, p. 695) says that the Kittiwake abounds in Hudson Bay, and an immature specimen received by him from the first Franklin expedition very likely came from York Factory, since Richardson (Swainson & Richardson, 1831, p. 423) says, ". . . The young appear in considerable numbers in the autumn, on the muddy coasts of Hudson's Bay, . . ."

#### \*Sabine's Gull, *Xema sabini sabini* (Sabine)

Markham (Fielden, 1887) obtained a specimen in full breeding plumage near York Factory about August 6, 1886.

#### Common Tern, *Sterna hirundo hirundo* Linnaeus

Waller (Baillie & Harrington, n.d.) collected a specimen on June 7, 1928, at Moose Factory. I was not able to distinguish with any certainty between Common and Arctic terns on the wing, and, as out of the six terns taken only one proved to be a Common Tern (collected at Long Ridge Point), I have entered all the terns seen under the next species. Perhaps 10 to 20 per cent of those seen in James Bay were Common Terns.

**Arctic Tern, *Sterna paradisaea* Pontoppidan**

Arctic Terns appear to be fairly evenly distributed along the west James Bay and southern Hudson Bay coasts throughout the summer. No nests have yet been found near the mainland coasts, but the species is known to breed on Gasket Shoal (Manning, 1950), and may possibly also nest on the islands off Cape Henrietta Maria and on the two islands between there and Little Cape. The Pens Islands are also possible nesting places, as well as the sand shoals near Shagamu River. None of these places have been examined. Murray (1859, p. 231) received a specimen of the Arctic Tern from Moose Factory, and another was collected there in 1881 (Preble, 1902, p. 81).

The Common Tern cannot usually be distinguished in the field from the Arctic Tern, and as five out of the six specimens we collected proved to be the latter, I have entered all my sight records under this species. Hewitt, who also grouped his sight records together, saw 200 terns at Ship Sands between May 25 and 28, 1947. Kelsall and Lemieux saw small numbers feeding over the Moose River estuary throughout the summer, and they thought that both species bred in the region, but we saw none there in late June or early July, 1949. The catalogue of the United States National Museum lists an Arctic Tern taken at Moose Factory in 1881 (Preble, 1902, p. 81). The hours given in the following table represent the time spent on the coastal barrens or other open country where terns might be expected.

Place	Date	Hours	Number seen	Number collected
Moose River estuary.....	May 29, 1947		Several	1
Ship Sands.....	May 31, 1947	3½	50	-
North Point.....	June 3-6, 1947	8½	7	-
Big Piskwanish.....	June 9-12, 1947	7	26	-
Long Ridge Point.....	June 14-16, 1947	7	160	2
Albany River.....	June 17-19, 1947	Canoe	13	-
Attawapiskat River.....	June 20-22, 1947} July 4-6	Canoe	50	-
Cape Duncan.....	July 26, 1947	3	4	-
Island X.....	July 3, 1947	3	10	-
Cape Henrietta Maria.....	July 20-24, 1947	16	14	-
Little Cape.....	July 29- Aug. 1, 1947	13	15	1
Shagamu River.....	Aug. 9-14, 1947	9	13	1
Cape Tatnam.....	Aug. 22-25, 1947	11	23	-

Besides those listed above, a few terns were frequently seen at sea while we were travelling. Like those seen over the land and rivers, they were usually in small flocks. At Cape Tatnam, we saw a few young on the wing. The forehead of the specimen collected at Shagamu River was slightly speckled with white, and two others seen there had distinctly grey foreheads (*portlandica* plumage). The remainder collected were in full breeding plumage, as were all others seen at close range.

Blakiston (1863, p. 153) received a specimen of the Arctic Tern from York Factory, and Preble (1902, p. 81) found both young and adult Arctic Terns were common along the coast of Hudson Bay north from York Factory near the end of August, 1900.

**Caspian Tern, *Hydroprogne caspia* (Pallas)**

McKenzie obtained a Caspian Tern at Moose Factory (Turner, 1886, p. 252), and another was taken there by Waller on May 31, 1928 (Baillie & Harrington, n.d.). Kelsall and Lemieux saw one at North Point on June 18, 1947, and Lewis and Peters (1941) observed two flying over Albany settlement on September 22, 1940.

**Black Tern, *Chlidonias niger surinamensis* (Gmelin)**

On June 13, 1947, Kelsall and Lemieux saw a Black Tern at Sandy Island. On May 28, 1947, Hewitt saw one at Ship Sands, and on June 17, 1949, I saw two there. Murray (1859, p. 231) received specimens from Moose Factory and Severn House, and Spreadborough (Macoun & Macoun, 1909, p. 58) found it breeding in a marsh about 9 miles south of Albany.

**\*Atlantic Murre, *Uria aalge aalge* (Pontoppidan)**

Swainson and Richardson (1831, p. 477) describe a specimen of the white-eyed form killed at York Factory. They also mention a second specimen lacking the white eye from the same locality. These appear to be the only records from Hudson Bay, and the possibility of an error in the locality of their origin must be considered (Cf. Taverner & Sutton, 1934).

**Nearctic Mandt's Guillemot, *Cephus grylle ultimus* Salomonsen**

Murray (1859, p. 231) received a specimen of *C. grylle* from Severn House, and Spreadborough (Macoun & Macoun, 1909, p. 22) noted a few on the west coast of James Bay.

On July 19, 1947, I saw two guillemots about 15 miles south of Cape Henrietta Maria, and on July 27, one about 30 miles west of the cape near a small island where it might have nested.

The bill measurements of specimens from western and southern Hudson Bay appear to be intermediate between topotypical *C. g. ultimus* and *C. g. mandtii* (Salomonsen, 1944; Manning, 1949), but pending the collection of more material from Frozen Strait and the region to the northwest of there, it is logical to refer them to the former race.

**Eastern Mourning Dove, *Zenaidura macroura carolinensis* (Linnaeus)**

Waller secured a specimen of the Eastern Mourning Dove at Moose Factory on September 11, 1929 (Baillie & Harrington, n.d.), and a male (wing, 144 mm.), now in the National Museum, also referable to the

eastern race, was taken by Lemieux at Ship Sands on July 19, 1947. Kelsall and Lemieux saw another Mourning Dove at Sandy Island on August 30, and Kelsall and Stirrett saw two at Attawapiskat on October 13, 1948. There is also a vague record for Fort Severn (Nat. Mus. files; Norris-Elye, 1949).

**Passenger Pigeon, *Ectopistes migratorius* (Linnaeus)**

The Passenger Pigeon is now extinct, the last-positive identification of a wild bird being in 1907 (A.O.U., 1931). A specimen was collected by Drexler at Moose Factory on August 16, 1860 (Turner, 1886, p. 245), and a set of eggs taken at the same place by Miles Spence in June, 1888, is listed by Macoun (1900, p. 217) among specimens in the National Museum. Both Hutchins (Thompson, 1891, p. 522) and Forster (1772, p. 398) say that Passenger Pigeons once abounded at Moose Factory, where, according to the former, they nested and remained as late as December. Hutchins (Thompson, 1891) received a specimen at Severn in 1771, possibly the same one which is recorded by Forster (1772, p. 398). One year between 1732 and 1744, Isham saw some millions of them either at York Factory (the more likely) or Churchill. About 1755 also, Passenger Pigeons went north to York Factory but remained only two days (Thompson, 1891). Bell (1880) says that they very rarely passed York Factory.

**Western White-winged Dove, *Zenaida asiatica mearnsi* (Ridgway)**

A Western White-winged Dove was shot by an Indian at Fort Albany on June 17, 1942, and given to Shortt and Hope (1943) a few minutes later.

**Arctic Horned Owl, *Bubo virginianus subarcticus* Hoy**

Two Horned Owls collected by McKenzie at Moose Factory are listed in the catalogue of the United States National Museum. One of these, Preble (1902, p. 110) examined and referred to this form, and Oberholser (1904) did the same with this or another specimen: "The great *Horned Owl*" is described by Ellis (1748, p. 40), who spent the winter of 1746-7 near York Factory, and by Edwards (1747, p. 60, plate dated 1744) who received a specimen from Hudson Bay. Markham obtained one from near York Factory about August 6, 1886 (Fielden, 1887), and Comeau (1915) heard Horned Owls several times along Nelson River during the summer of 1914. Peters (1940) points out that Gmelin's description of *Strix wapacuthu* is based exclusively on Pennant's Wapacuthu Owl. This, Peters considers to be a composite of the present form and of *Nyctea scandiaca*. However, a comparison of Pennant's description (1785, p. 231) with specimens of the Horned and Snowy owls shows a much closer agreement with the latter. Indeed, there is nothing in this description which is not reconcilable with a Snowy Owl; while apart from there being no mention of horns or the fine vermiculation of a Horned Owl (its most obvious characteristics), there are several points which definitely separate it from any Horned Owl in the National Museum. Moreover, Swainson and Richardson (1831, p. 86) point out that neither Pennant nor Latham appears to have seen the Wapacuthu, and their descriptions agree word for word with Hutchins' manuscript notes, while Thompson (1891, p. 545)

says that Hutchins refers both to "Wa-pa-cu-thu or Spotted Owl" and to "Natow okey onis seu: Horned Owl". Hearne (Tyrrell, 1911, p. 372) says that the Indians call the Snowy Owl Wap-a-kee-thow, while "Grey or Mottled Owl"—Arctic Horned Owl is called Ho-ho. Pennant says, "... The young are hatched in *May*, and fly in *June*; and are white for a long time after...." Pennant's informant apparently considered the white adult Snowy Owls to be the young birds. Young Arctic Horned Owls in the National Museum taken at Dauphin, Man., on June 10, have the same general colour as the adults and could not possibly be considered white. *Strix wapacuthu* Gmelin is therefore a synonym of *Nyctea scandiaca* (Linnaeus).

**Snowy Owl, *Nyctea scandiaca* (Linnaeus)**

A male Snowy Owl in the collection of the National Museum was taken by Cpl. E. S. Covett at the mouth of Moose River on November 6, 1933. On June 26, 1947, I saw a Snowy Owl on the mud flats at Cape Duncan and another on the marshes at Cape Henrietta Maria on July 20, 21, and 22. Probably in the latter case it was the same bird seen each day. Ellis (1748, pp. 40-41) says that the Snowy Owl remains in this country [York Factory] throughout the year, and Bell (1880) that it is abundant throughout the Norway House, York Factory, Churchill region in the winter. Murray (1859, p. 221) received two specimens from York Factory, one wholly white. It was known to Hutchins at Fort Severn as Wapacuthu (*See Arctic Horned Owl*).

**American Hawk Owl, *Surnia ulula caparoch* (Müller)**

The United States National Museum catalogue contains the record of an American Hawk Owl collected by Haydon at Moose Factory in 1881 (Preble, 1902, p. 111). Lewis and Peters (1941) recorded the species at Albany on September 22, 1940, and on southern Akimiski Island on September 18 and 19. A specimen (No. 13) was received by Forster (1772, p. 385) from Severn River, and by Murray (1859, p. 221) from Severn House. Richardson (Swainson & Richardson, 1831, p. 94) and Bell (1880) obtained it at York Factory. The "Little Hawk Owl" described and figured (dated 1745) by Edwards (1747, p. 62) from a specimen brought from Hudson Bay by Light, formed the basis of Müller's *Strix caparoch* (A.O.U. 1931).

**\*Northern Barred Owl, *Strix varia varia* Barton**

Several specimens of the Barred Owl taken at Moose Factory are recorded in the United States National Museum catalogue (Preble, 1902, p. 109).

**Great Grey Owl, *Strix nebulosa nebulosa* Forster**

A Great Grey Owl was collected at Moose Factory by McKenzie (Turner, 1886, p. 243) and another by Waller in 1927 (Baillie & Harrington, n.d.). Kelsall and Stirrett had a good view of one flying along the river near Moose Factory on October 2, 1948. *Strix nebulosa* was described by Forster (1772, pp. 386, 424) from a Severn River specimen sent to the Royal Society by Graham. Blakiston (1863, p. 50) received two specimens from J. P. Gardiner of York Factory.

**\*Long-eared Owl *Asio otus wilsonianus* (Lesson)**

Hutchins (Thompson, 1891, p. 540) says that this species is found, though not frequently, at Severn settlement, but that it was more numerous a day's journey or two inland where it bred.

**Short-eared Owl, *Asio flammeus flammeus* (Pontoppidan)**

This appears to be the common owl of the James Bay and southern Hudson Bay coasts. Haydon collected a specimen at Moose Factory in 1881 (Preble, 1902, p. 109), and Waller (Baillie & Harrington, n.d.) obtained one there on April 29, 1930. On June 23, 1949, Macpherson collected one on Sandy Island. He saw two other owls there and one at Haysey Island, but these were not specifically identified. Lewis and Peters (1941) recorded the Short-eared Owl near Moose River estuary in September or October, 1940. Spreadborough (Macoun & Macoun, 1909, p. 290) found it very abundant on both shores of James Bay in 1904. A female in the National Museum collection was taken by Johansen on July 3, 1920, between Moose River and Albany River, and a "chick" taken by him on the same date and in the same area is also listed in the National Museum Catalogue. Williams (1921) reported this species very common every night at Fort Albany, where he saw six on August 19 and ten on August 21, 1920. He collected a male and a female (National Museum specimens) there on August 21 and 24, respectively. Lewis and Peters (1941) recorded it at sea between Attawapiskat and Albany on September 21, 1940, at Attawapiskat about September 16, and on the southern coast of Akimiski Island, September 18 to 20.

On the coastal barrens in 1947, I saw one Short-eared Owl at North Point on June 6, one at Big Piskwanish on June 12, four at Cape Duncan, June 26-27, and one which was collected at Cape Tatnam on August 25.

Forster (1772, p. 384) received two specimens from Severn River, Bell (1880) obtained one from York Factory, and Preble (1902, p. 109) saw one at Beacon Point on July 13, 1900.

**\*Richardson's Owl, *Aegolius funereus richardsoni* (Bonaparte)**

The specimen from Severn River recorded by Forster (1772, p. 385) under *Strix passerina*, may have been a Richardson's Owl. Markham obtained a Richardson's Owl near York Factory about August 6, 1886 (Fielden, 1887). Rae's specimen, listed in the British Museum catalogue (Sharpe, 1875, p. 286) as from Repulse Bay, was also very probably collected near York Factory.

**\*Saw-whet Owl, *Aegolius acadicus acadicus* (Gmelin)**

This species was apparently known to Hutchins (Thompson, 1891, p. 542). Specimen No. 32301 in the Smithsonian Institution was obtained at Moose Factory by McKenzie (Turner, 1886, p. 243).

**Eastern Nighthawk, *Chordeiles minor minor* (Forster)**

In 1904, Spreadborough (Macoun & Macoun, 1909, p. 355) found Nighthawks abundant between Missinabi and Moose Factory, and on fine evenings in 1949 at the end of June and beginning of July, we frequently

saw two or three Nighthawks flying above Moosonee. Drexler (Turner, 1886, p. 242) obtained a specimen at Moose Factory in August, 1860, and the catalogue of the United States National Museum lists another taken there by Haydon in 1881 (Preble, 1902, p. 113). According to Waller, a nest was found at Moose Factory in 1928 (Baillie & Harrington, n.d.). On June 23, 1949, I collected a male Eastern Nighthawk in a clearing among the spruce on the southeast bank of Moose River opposite Middleboro Island. Williams (1921) observed one at the head of the Albany estuary on August 18, 1920. Bell (1880) recorded the Nighthawk at York Factory. Comeau (1915) says that it was "Common on the barren heights along the Nelson river and around Port Nelson and Hayes river" in 1914.

**Ruby-throated Hummingbird, *Archilochus colubris* (Linnaeus)**

Stirrett saw a Ruby-throated Hummingbird at Moose Factory on September 27, 1948, and Mr. and Mrs. A. H. Mitchell reported that one had visited Attawapiskat settlement for two days in the latter part of July, 1940 (Lewis & Peters 1941).

**Eastern Belted Kingfisher, *Megaceryle alcyon alcyon* (Linnaeus)**

Williams (1920) saw two or more Belted Kingfishers almost every day of his trip down Moose River to Moose Factory in 1919. Drexler (Turner, 1886) obtained a specimen at Moose Factory on May 26, 1860, and the United States National Museum catalogue records one taken at Moose Factory in 1881 by Haydon (Preble, 1902, p. 111). Waller (Baillie & Harrington, n.d.) reported that it nested on Moose Island. The Belted Kingfisher may also nest in the cut banks of Haysey Island, where we saw one or two on June 27, 1949. On June 19, 1949, we saw one at Sandy Island, and Stirrett saw one at Ship Sands on October 2, 1948. Williams (1921) saw them occasionally as far down Albany River as the head of the estuary (about mid-August, 1920). Blakiston (1863, p. 57), Murray (1859, p. 222), and Bell (1884) each received a specimen from York Factory. Bell said it was rare that far north.

**Boreal Flicker, *Colaptes auratus borealis* Ridgway**

According to Waller (Baillie & Harrington, n.d.), the Yellow-shafted Flicker breeds at Moose Factory. Hewitt saw one there on September 21, 1947, and the catalogue of the United States National Museum lists a specimen taken at Moose Factory in 1881 by Haydon (Preble, 1902, p. 112). On June 1, 1947, I collected a female in the Sandy Island spruce stand. In 1904, Spreadborough (Macoun & Macoun, 1909, p. 387) observed the Yellow-shafted Flicker all along Moose River, and a few north to Cockspenny Point. Forster (1772, p. 387) received a specimen from Fort Albany, where he says it arrives in April and leaves in September. Lewis and Peters (1941) recorded it on southern Akimiski Island between September 18 and 20, 1940. On July 13, 1947, I saw one at Raft River. Hargitt (1890) lists an adult male collected by Rae at York Factory, and about August 6, 1886, Markham (Fielden, 1887) secured a specimen and eggs near there.

The measurements of the Sandy Island specimen were: wing chord, 159 mm.; tarsus, 29 mm.; culmen, 35 mm. These fall within the range of measurements given by Ridgway (1914) for *C. a. borealis* and *C. A. luteus*.

but are nearer the mean of the latter. Rand (1944c) points out that these size groups are arbitrary, and there is a cline of increasing size from south to north.

**\*Northern Pileated Woodpecker, *Dryocopus pileatus abieticola* (Bangs)**

Spreadborough (Macoun & Macoun, 1909, p. 341) found the Pileated Woodpecker tolerably common along Moose River to Moose Factory in 1896, and the United States National Museum catalogue lists four specimens taken at Moose Factory in 1862 (Preble, 1902, p. 112). Hutchins recorded it from the interior only (Thompson, 1891, p. 551); Baird (1858, p. 107) records a specimen collected by Isbister at Nelson River.

**Yellow-bellied Sapsucker, *Sphyrapicus varius varius* (Linnaeus)**

Spreadborough (Macoun & Macoun, 1909, p. 338) found the Yellow-bellied Sapsucker common along Moose River to Moose Factory in 1896. The United States National Museum catalogue records a specimen taken at Moose Factory by Haydon in 1881 (Preble, 1902, p. 112). On May 30, 1947, I collected two females in the Sandy Island spruce stand, and the catalogue of the National Museum of Canada records one collected there on October 4, 1920, by Johansen.

**Northern Hairy Woodpecker, *Dendrocopos villosus septentrionalis* (Nuttall)**

Spreadborough noted the Hairy Woodpecker all along Moose River to Moose Factory (Macoun & Macoun, 1909, p. 325). Hewitt saw one at Ship Sands on September 24, 1947. Forster (1772, p. 388) received a specimen from Severn River, and Bell (1884) was given one from York Factory. On June 9, I collected a female (wing chord, 128 mm.; culmen, 30.5 mm.) in the spruce forest at Big Piskwanish. The wing measurement is the same as that given by Ridgway (1914) for his smallest *D. v. septentrionalis* and largest *D. v. villosus*, but it is nearer the mean of the former. The large culmen measurement and the extent of white on the back also suggest the northern race.

**Downy Woodpecker, *Dendrocopos pubescens* subsp.**

Lewis saw two Downy Woodpeckers together on southern Akimiski Island on September 18, 1940 (Lewis & Peters, 1941). A Downy Woodpecker in the United States National Museum collected at Moose Factory by Haydon (Preble, 1902, p. 111) is probably the one referred to *D. p. nelsoni* by Oberholser (1896). Todd (1943) refers James Bay birds from unspecified locations to this race, and Peters (1948, p. 210) includes Akimiski Island within its range. On June 24, 1949, I collected a female Downy Woodpecker in some well-grown spruce on the southeast bank of Moose River opposite Middleboro Island, and on June 11, 1947, I obtained a male among the willow thickets at Big Piskwanish. Both these specimens (♀, wing chord, 96 mm.; 2½ bars on outer tail feathers; ♂, wing chord, 97 mm.; 2 bars on outer tail feathers) are tentatively referred to *D. p. medianus*, principally on the number and extent of the tail bars (Cf. Rand, 1948b). In the male, the basal parts of the feathers of the forehead are white, and the surface appears slightly flecked with white as a result of wear.

**Arctic Three-toed Woodpecker, *Picoides arcticus* (Swainson)**

Spreadborough (Macoun & Macoun 1909, p. 332) saw one on Moose River, and according to Bendire (1895, p. 74), there are several specimens from Moose Factory in the United States National Museum, one of which was taken by Haydon in 1881 (Preble, 1902, p. 112). On June 16, 1949, I collected a female in the Sandy Island spruce stand. In late August or September, 1914, Comeau (1915) observed this species several times, probably along Nelson River. Captain Markham obtained a specimen near York Factory about August 6, 1886 (Fielden, 1887).

**American Three-toed Woodpecker, *Picoides tridactylus bacatus* Bangs**

Williams (1921) saw a Three-toed Woodpecker at the head of Albany River estuary on August 19, 1920, and another at Fort Albany on August 21. On July 13, 1947, I saw two together among the spruce at Raft River, and one, a female, was collected. It is clearly referable to the eastern race. Forster (1772, p. 388) received a specimen from Severn River where he says it is not very common, and Murray (1859, p. 223) obtained one from Severn House.

**Eastern Kingbird, *Tyrannus tyrannus* (Linnaeus)**

A specimen was collected at Moose Factory on July 11, 1881, by Haydon (Preble, 1902, p. 113) and another on June 2, 1928, by Waller (Baillie & Harrington, n.d.). Spreadborough (Macoun & Macoun, 1909, p. 368) saw one at Fort Albany on August 28, 1904.

**Scissor-tailed Flycatcher, *Muscivora forficata* (Gmelin)**

There are two specimens from York Factory in the National Museum of Canada. The first was taken by Bell (Cf. 1882) in 1880, the second by C. Harding, Hudson's Bay Company's post manager, on October 2, 1924. This latter bird was found dead after a slight frost (Lloyd, 1925).

**Alder Flycatcher, *Empidonax traillii traillii* (Audubon)**

In 1904, Spreadborough found Alder Flycatchers common in all the willow thickets from Missinabi to Point Comfort on the east James Bay coast (Macoun & Macoun, 1909, p. 385). Between June 15 and 29, 1949, fifteen flycatchers were seen at Sandy Island by me (23 hours observing), and three by Macpherson (20 hours observing). Five of these were collected, of which two proved to be of this species. Two flycatchers were also seen at Sandy Island on September 8, 1950, during 2 hours observing. During 7 hours on Ship Sands, June 17 and 18, Macpherson saw and collected one Alder Flycatcher. On July 10, 1947, I collected a male near the edge of the spruce at Raft River. These are very secretive birds, and both this and the following species may be more numerous on the James Bay coast than our 1947 records indicate (See also Least Flycatcher).

**Least Flycatcher, *Empidonax minimus* (Baird & Baird)**

Spreadborough (Macoun & Macoun, 1909, p. 386) reported the Least Flycatcher common along Moose River to James Bay in June, 1896. Drexler collected a specimen at Moose Factory on May 30, 1860 (Turner,

1886, p. 242), and a nest was found there on June 18, 1930, by Waller (Baillie & Harrington, n.d.). In 1949, during 6 hours' observing at Moosonee (June 30 to July 1), I recorded three flycatchers, while Macpherson recorded four in 7 hours (June 25, June 30 to July 2). The only specimen collected was a Least Flycatcher. At Sandy Island between June 15 and 29, 1949, Maepherson and I collected three Least Flycatchers. On June 6, 1947, I collected a very tame male on the beach about a mile from the bush at North Point, and on June 10, I obtained a female at Big Piskwanish (See also under Alder Flycatcher).

**Olive-sided Flycatcher, *Nuttallornis borealis* (Swainson)**

Spreadborough (Macoun & Macoun, 1909, p. 376) saw one near Moose Factory on June 4, 1896. In 1904 he found them common on Moose River, but this was probably above Moose Factory. Murray (1859, p. 223) received a specimen from Hudson Bay.

**Northern Horned Lark, *Eremophila alpestris alpestris* (Linnaeus)**

The Horned Lark is an abundant migrant on both the west James Bay and southern Hudson Bay coasts. It nests in considerable numbers on Gasket Shoal (Manning, 1950) and probably also at Cape Henrietta Maria and Little Cape, while a few may breed on some of the dry sand and gravel ridges along the west James Bay coast. On June 18, 1863, an adult male of this race was collected at Moose Factory (Preble, 1902, p. 114), and apparently on the basis of this, Oberholser (1902) records the Horned Lark as breeding there. Hewitt reported Horned Larks common in Moose River estuary area between May 22 and 28, and September 21 and 25, 1947. In 1948, Stirrett saw none at Moose Factory until October 1, when they arrived in conspicuous numbers. That day, he saw twenty-five; on October 2, he saw another twenty-five at Moose Factory and 100 on Ship Sands. Williams (1921) saw one at Fort Albany on August 21, 1920. Lewis and Peters (1941) recorded Horned Larks on southern Akimiski Island between September 18 and 20, 1940. Spreadborough (Macoun & Macoun, 1909, p. 393) found a few breeding at Cape Henrietta Maria, and they were common in migration between there and Missinabi in late August and September, 1904. Forster (1772, p. 398) received a Horned Lark from Fort Albany, and Murray (1859, p. 222) from Severn House and York Factory. At the latter place it was also recorded by Bell (1880). In late August or September, 1914, Comeau (1915) saw Horned Larks around Nelson on the grassy beaches between Cape Tatnam and Owl River, but they were not numerous.

Most of the Horned Larks which we saw in May and June, 1947, were obvious migrants feeding in small flocks near the shore. The two on the island off the mouth of Attawapiskat River were a pair presumably nesting or going to nest nearby, since the oviduct of the female contained an egg. At Cape Henrietta Maria, about a tenth of the Horned Larks listed in the table were juveniles; at Little Cape, about a quarter. These were able to fly well but had probably been raised locally.

The hours given in the following table represent the time spent on the barrens.

Place	Date	Hours	Number seen	Number collected
Sandy Island.....	May 28-30, 1947	—	Several	4
	June 16, 1949	—	1	1
Ship Sands.....	May 31, 1947	3	50	—
North Point.....	June 3-6, 1947	6	300	—
Big Piskwanish.....	June 9-12, 1947	7	16	—
Long Ridge Point.....	June 14-16, 1947	6	5	—
Island X.....	July 3, 1947		Total population:	2
10 miles S. of Houston Point....	June 29, 1947	—	1	—
Cape Henrietta Maria.....	July 20-24 1947	16	60	11 + 4 juv.
Little Cape.....	July 29- Aug. 1, 1947	8	55	2 + 2 juv.
Shagamu River.....	Aug. 8-9, 1947	7	5	—
Cape Tatnam.....	Aug. 22, 1947	9	17	—

The migrant Horned Larks which we collected at the southern end of James Bay are typical *E. a. alpestris*; the two from Island X, less typical. The Cape Henrietta Maria birds usually lack yellow on the superciliary line, but the yellow on their throats is darker than that on most southern Baffin Island and Churchill birds which have been variously referred (Taverner & Sutton, 1934; Taverner, 1935; Soper, 1946; Sutton, 1932), and distinctly darker than that on Melville Peninsula and central Arctic birds. Juveniles from Cape Henrietta Maria and Little Cape are in their yellow tinge nearly midway between comparable specimens from Labrador, and from Bernard Harbour on the central Arctic coast. They can be easily separated from both.

#### Tree Swallow, *Iridoprocne bicolor* (Vieillot)

Spreadborough (Macoun & Macoun, 1909, p. 576) found the Tree Swallow common from Missinabi to Moose Factory, where, according to Waller (Baillie & Harrington, n.d.), it nests. Two specimens in the Smithsonian Institution are from Moose Factory: one was taken by McKenzie; the other, a male, by Drexler on May 26, 1860 (Baird, 1874, p. 298). In late May, 1947, Hewitt and I frequently saw Tree Swallows flying over Moose River between Moose Factory and Sandy Island. On June 14, 1949, I saw about thirty, hunting insects over the balsam poplar grove on Sandy Island, and a similar number were again there on June 22 (one collected). I saw only about ten others at Sandy Island between

June 15 and 29, but they were more regularly in evidence at Moosonee, where I saw forty in 6 hours between June 30 and July 1. On June 27, Macpherson and I saw several Tree Swallows flying with the Bank Swallows at Moose Factory and Haysey Island. Between July 7 and 13, 1947, I saw several flying over Raft River. Bell (1880) reports the Tree Swallow at York Factory.

**Bank Swallow *Riparia riparia riparia* (Linnaeus)**

Preble (1902, p. 124) states that specimens of the Bank Swallow taken at Moose Factory by Haydon in 1881 are recorded in the catalogue of the United States National Museum. In 1904, Spreadborough (Macoun & Macoun, 1909, p. 581) saw a number nesting in the bank of Moose River above Moose Factory, and a nest with four eggs was collected at Moose Factory on June 20, 1930, by Waller (Baillie & Harrington, n.d.). In 1949, Macpherson and I saw a few Bank Swallows along the river front at Moosonee on June 29 and July 1, and they were numerous at Moose Factory and at the north end of Haysey Island on June 27. In the cut bank at these two places we saw a total of about thirty occupied or recently occupied holes. The Indian children had dug out some of the nests, and several broken eggs were seen. Kelsall and Lemieux observed the colony on Moose Island in 1947. Hutchins (Swainson & Richardson, 1831, p. 333) states that the Bank Swallow bred later than any other bird that frequented Severn River and sometimes did not lay its eggs until near the end of July. Preble (1902, p. 124) saw several colonies on July 10, 1900, a few miles above York Factory on Hayes River.

**Barn Swallow *Hirunda rustica erythrogaster* Boddaert**

Waller (Baillie & Harrington, n.d.) reported that a Barn Swallow was killed at Moose Factory in 1924 by Clarence Hester.

**Eastern Cliff Swallow, *Petrochelidon pyrrhonota pyrrhonota* (Vieillot)**

A male Cliff Swallow in the Smithsonian Institution was collected by Drexler at Moose Factory on May 17, 1860 (Baird, 1874, p. 290). A swallow briefly described by Forster (1772, p. 408), who says that they built under the windows at Fort Severn and on the face of the steep banks of the river, appears to be this species (Cf. Preble, 1902, p. 123; Ridgway, 1904, p. 48), although there are no other records from the Hudson Bay coast. The eastern race is probably the one concerned (See Rand, 1948b).

**\*Purple Martin, *Progne subis subis* (Linnaeus)**

The "Great American Martin" figured by Edwards (1750, p. 120) from a specimen brought from Hudson Bay<sup>1</sup> by Isham, formed the basis of Linnaeus' description of *Hirundo subis* (A.O.U., 1931). The Purple Martin, however, does not seem to have been recorded for this area since, and Isham's specimen may have been collected inland.

**Canada Jay, *Perisoreus canadensis canadensis* (Linnaeus)**

The Canada Jay is probably a common nesting bird in the drier parts of the spruce forest on the west James Bay and southern Hudson Bay coasts.

<sup>1</sup> According to Swainson and Richardson (1831, p. 335) this specimen came from Severn River.

Williams (1920) saw one opposite the mouth of French River on August 20, 1919. The catalogue of the United States National Museum records a specimen collected in 1881 by Haydon at Moose Factory (Preble, 1902, p. 115). Waller collected a nest there on May 26, 1930, and another nest was taken by F. L. Wilson at Halfway Point in April, 1936 (Baillie & Harrington, n.d.). Hewitt saw two Canada Jays on Ship Sands on May 27, 1947. In 1948, Stirrett saw one at Moose Factory on September 27, five at Attawapiskat, October 4 to 10, and three near the southwest point of Akimiski Island on October 4. Lewis and Peters (1941) recorded the Canada Jay on southern Akimiski Island between September 18 and 20, 1940. In 1904, Spreadborough (Macoun & Macoun, 1909, p. 407) observed it on the west coast of James Bay north to [the limit of trees south of?] Cape Henrietta Maria. Forster (1772, p. 386) received two specimens from Severn River, and Murray (1859, p. 222), at least one from Severn House. In late August or September, 1914, Comeau (1915) found the Canada Jay common along the banks of the rivers and on the coast between Cape Tatnam and Owl River, wherever there were trees. Preble (1902, p. 115) saw it nearly every day between Norway House and York Factory, where he collected specimens. The six Canada Jays we recorded at Sandy Island in 1949 were near our camp, which had apparently attracted them, but all those seen in 1947 were a mile, and most were 2 miles within the spruce forest. I was in that far on only about five occasions, and on none south of Raft River, which probably accounts for the few dates on which this species was seen.

In the following table, the hours given show the time spent within the spruce forest.

Place	Date	Hours	Number seen	Number collected
Sandy Island.....	June 15-29, 1949	Camp	6	2 + 1 juv.
Raft River.....	July 13, 1947	14	7	2 + 1 juv.
Shagamu River.....	Aug. 10, 1947	7	18	7 + 2 juv.
Cape Tatnam.....	Aug. 28, 1947	2	1	1 juv.

The specimens appear to be typical *P. c. canadensis* (Cf. Godfrey, 1949b; Manning, 1949).

\***Northern Blue Jay, *Cyanocitta cristata bromia* Oberholser**

Chamberlain (1887, p. 75) says that the Blue Jay has been taken at Moose Factory.

**American Magpie, *Pica pica hudsonia* (Sabine)**

Forster (1772, p. 387) received a Magpie from Fort Albany, and Hutchins (Thompson, 1891, p. 565) reported that they regularly nested inland and were occasionally seen at the southern settlements, but he never

observed them at York or Severn, although one was caught in a trap at the former place. Markham collected one at York Factory about August 6, 1886 (Fielden, 1887).

**Northern Raven, *Corvus corax principalis* Ridgway**

On June 1, 1947, I saw two Ravens in the Sandy Island spruce stand. On June 15, 1949, I saw there an adult pair and three young Ravens. The young (one collected) could not quite fly. On several occasions during our stay at Sandy Island (June 15 to 29, 1949), a Raven flew over near our tent. In 1904, Spreadborough observed Ravens from Missinabi to Cape Henrietta Maria (Macoun & Macoun, 1909, p. 415), but possibly some of these were crows, which he does not otherwise record north of the Missinabi. Williams (1921) saw two at the Albany estuary on August 18, 1920. Lewis (Lewis & Peters, 1941) saw four near the centre of the southern Akimiski Island coast on September 18, 1940, and near the southwest point, Stirrett saw six on October 4 and 5, 1948. Bell (1880) says that the Raven breeds throughout the Norway House, Churchill, York Factory district, and in the latter area Comeau (1915) says it is a very common bird and considered a great pest by the trappers.

**Eastern Crow, *Corvus brachyrhynchos brachyrhynchos* Brehm**

Crows probably now nest in the woods along both the west James Bay and southern Hudson Bay coasts. Hutchins (Thompson, 1891, p. 570) says, "These birds are plenty inland, but seldom appear on the coast." Hewitt saw crows frequently at Moosonee and Sandy Island in 1947. On October 2, 1948, Stirrett saw four at Moose Factory, and five at Ship Sands. At the end of May, 1947, we saw crows several times at Sandy Island, and on June 23, 1949, three together at Middleboro Island. One of these was collected, and another obtained at Moose Island on June 27. The American Crow was recorded by Lewis and Peters (1941) on the lower Moose River, probably on September 15, 1940, at Albany about September 22, and at Attawapiskat about September 17. At the latter place I saw three crows (a ♀ with incubating patch collected) between July 5 and 6, 1947, and Stirrett saw five near the southwest point of Akimiski Island between October 4 and 5, 1948. At Raft River between July 9 and 13, 1947, I saw a crow nearly every day when I visited a point a mile up the river. I saw two crows at Lake River on July 17, and three at Shagamu River on August 9. At Cape Tatnam, I collected a juvenile from a flock of nine crows feeding near the shore on August 27. Ten others, including a flock of six, were also seen on the Cape Tatnam barrens. Between July 10 and 17, 1900, Preble (1902) found crows rather common at York Factory, and in the same general area Comeau (1915) saw them often, although not abundantly in late August or September, 1914.

The measurements of our specimens are—Cape Tatnam juvenile male: wing chord, 283 mm.; culmen, 42.5 mm.; depth at nostril, 15.5 mm.; tarsus, 55 mm.; tail, 160 mm.; Attawapiskat female: wing chord, 300 mm.; culmen, 44 mm.; depth at nostril, 16.8 mm.; tarsus, 56 mm.; tail, 171 mm.; Middleboro Island male: wing chord, 293 mm.; culmen, 48 mm.; depth at nostril, 18 mm.; tarsus, 58 mm.; tail, 165 mm.; Moose Island female: wing chord, 318 mm.; culmen, 48.5 mm.; depth at nostril, 19 mm.; tarsus, 59 mm.; tail,

180 mm. The Cape Tatnam male had probably not attained its full size. Two of the others could be referred to *C. b. hesperis*, but pending more material, it seems wisest to consider the west James Bay and southern Hudson Bay coasts within the range of *C. b. brachyrhynchos*. Sutton (Taverner & Sutton, 1934) refers a male from Churchill to the latter race.

**Black-capped Chickadee, *Parus atricapillus anamesus* (Todd)**

Spreadborough (Macoun & Macoun, 1909, p. 717) reported the Black-capped Chickadee common from Missinabi to Moose Factory, and Lewis (1939) saw four at Moosonee on September 18, 1938. Forster (1772, p. 407) received a specimen from Fort Albany. Preble (1902, p. 129) refers a specimen taken by Haydon at Moose Factory to the eastern form *P. a. atricapillus*, and Baird (1858, p. 81) does the same for a specimen taken there in 1862. More recently, Todd (1938a, 1943) has assigned James Bay birds to a new race. A single male Black-capped Chickadee (wing, 66.5 mm.; tail, 64 mm.), collected by Macpherson at Haysey Island on June 27, 1949, is easily separable from the Lake St. John specimen of *P. a. atricapillus* on the colour characters given by Todd (1938a).

**Hudsonian Chickadee, *Parus hudsonicus hudsonicus* Forster**

The Hudsonian Chickadee is fairly common and probably breeds in the dry spruce country along the northern part of the west James Bay and southern Hudson Bay coasts. This type of country, however, is scarce, except near the rivers. On September 18 and 25, 1938, Lewis (1939) observed a marked southward movement of Hudsonian Chickadees at Moosonee. In 1948, Stirrett saw seven Hudsonian Chickadees at Moose Factory on October 2, seven at Attawapiskat between October 7 and 10, and seven near the southwest point of Akimiski Island on October 5 to 7. On July 10, 1947, I collected a single male from among some dry spruce at Raft River, and on July 12, in the same area, an adult pair and a juvenile from a group of five, probably a family. I saw three others (one collected) the same day. On August 11, seven were seen in a similar habitat at Shagamu River, and one juvenile collected. Preble (1902, p. 129) saw a number near York Factory on July 13, 1900. In 1914 Comeau (1915) observed them only in the country along Nelson River.

Owing to the worn plumage of our adult specimens, the colour difference between them and the Nova Scotia birds is not obvious. In view of the large size of the adults (wing chord, ♂♂, 66 mm., 65 mm.; ♀♀, 62 mm., 63 mm., and the comparative proximity to Severn River, whence Forster (1772, pp. 408, 430) received the specimen upon which he based his description of *Parus hudsonicus*, they may safely be assigned to the nominate race. Rhoads (1893) also refers a specimen from Moose Factory to *P. h. hudsonicus*, and Preble (1902, p. 129) does likewise with two collected near York Factory on July 13, 1900.

**\*Red-breasted Nuthatch, *Sitta canadensis* Linnaeus**

The Red-breasted Nuthatch was reported by Spreadborough (Macoun & Macoun, 1909, p. 713) to be common along Moose River from Missinabi to Moose Factory. Kelsall and Stirrett had a good view of one at Moose Factory on October 2, 1948.

**\*Brown Creeper** *Certhia familiaris americana* Bonaparte

On June 1, 1947, I saw what I think was a Brown Creeper on Sandy Island, but I did not have a good view.

**\*Eastern Winter Wren**, *Troglodytes troglodytes hiemalis* Vieillot

The United States National Museum catalogue records a Winter Wren taken at Moose Factory by Haydon (Preble, 1902, p. 128) and Spreadborough (Macoun & Macoun, 1909, p. 701) reported them common from Missinabi to Moose Factory.

**Eastern Mockingbird**, *Mimus polyglottos polyglottos* (Linnaeus)

Waller collected a Mockingbird at Moose Factory on June 4, 1928 (Virtue, 1929).

**Eastern Robin**, *Turdus migratorius migratorius* Linnaeus

The Eastern Robin nests inland from the edge of the bush in the dryer places along both the west James Bay and southern Hudson Bay coasts. It is particularly plentiful about the settlements. Williams (1920) saw two robins on Bushy Island on August 19, 1919. Stirrett saw six at Moose Factory on October 2, 1948, and Waller (Baillie & Harrington, n.d.) found a nest with four eggs there on June 25, 1930. Only those robins seen during our timed walks have been recorded in the table for Sandy Island. In addition to these, three to five were usually feeding in the early morning on the sandy beach near our tent. These were apparently nesting a few hundred yards back from the river amongst the willow thickets. On June 29, a nest was found there with the parent sitting on four eggs, and just west of Langland's Gutway, another nest with two eggs was found in a similar situation on June 21.

Mackenzie saw a robin at Big Piskwanish on June 11, 1947, and one at Long Ridge Point on June 15. Forster (1772, p. 399) received three specimens from Fort Albany. Stirrett saw three at Attawapiskat between October 10 and 13, 1948. On Akimiski Island he saw four near the southwest point on October 5, and Lewis and Peters (1941) record it on the southern coast between September 18 and 20, 1940. On June 26, 1947, I found a nest with six eggs in a small clump of spruce at Cape Duncan, and first observed juveniles at Shagamu River on August 10. Forster (1772, p. 399), who received a specimen from Severn River, says they arrived there at the beginning of May, while Swainson and Richardson (1831, p. 176) put the date of the first arrival a few days earlier. Forster (1772) and Bell (1880) reported it at York Factory, and Markham noted robins breeding in that vicinity about August 6, 1886 (Fielden, 1887).

The hours given in the following table show the total time spent observing at places in the Moose River estuary in 1949 and the time spent in the deciduous and non-deciduous thickets and woods in 1947.

Place	Date	Hours	Number seen	Number collected
Moosonee.....	June 30-July 1, 1949	6	28	
(Macpherson)....	June 25, July 1-2, 1949	7	10	} 2
Opposite Middleboro Island.	June 23, 1949	2	15	} 3
(Macpherson)	June 23, 1949	1½	8	} 3
Sandy Island.....	May 30, 1947	-	-	1
(Macpherson)....	June 15-29, 1949	23	14	} 5
Ship Sands.....	June 15-29, 1949	20	9	} 5
Attawapiskat.....	June 17, 1949	5	3	1
Cape Duncan.....	July 5, 1947	5	2	-
Raft River.....	June 26-27, 1947	7	6	-
Shagamu River.....	July 8-12, 1947	20	13	3
Cape Tatnam.....	Aug. 10, 1947	11	12	5 juv.
	Aug. 28, 1947	6	2	2 juv.

Additional material from the Moose River estuary necessitates a modification in my statement (Manning, 1949) that birds from that region are typical *T.m. migratorius*.

Nine June and July males from the Moose River estuary are now available and were compared with the three June male *T.m. nigrideus* from Newfoundland and with thirty-five spring and summer males from Nova Scotia, central Ontario (chiefly Ottawa region), and central Manitoba. Three of the Moose River specimens match the Newfoundland birds in dorsal colouring, one is intermediate, and five are typical *T.m. migratorius*. In the four dark-backed specimens, the red of the underparts is also very dark, and in two of them it is darker than in the Newfoundland birds. With one exception, the breasts of the light-backed individuals are also pale, and many of the feathers are still edged with white. Since we wished to obtain chiefly male robins, we selected the darker birds, and the percentage of such dark birds in the actual population is probably twenty: less than our collections indicate. The five Moose River estuary females are inseparable from typical *T.m. migratorius*. Three Newfoundland female *T.m. nigrideus* average very slightly darker dorsally, and perhaps by chance, distinctly darker and brighter ventrally. On the above evidence, the Moose River estuary population must be placed with *T.m. migratorius*, although there is distinct evidence of intergradation with *T.m. nigrideus*. A male from Akimiski Island, three females from Raft River, and seven juveniles from Shagamu River and Cape Tatnam are typical *T.m. migratorius*. Males showing the characters of *T.m. nigrideus*, however, occasionally occur in breeding populations of *T.m. migratorius* well to the west of Hudson Bay (cf. Rand 1948c). A male from latitude 50° 57', longitude 96° 52' in the Royal Ontario Museum collected on July 19, 1945, and another in the National Museum collected at Kittigazuit, Mackenzie Delta, by A. E. Porsild on May 17, 1932, are almost as dark dorsally as the Newfoundland specimens, while the Kittigazuit specimen is also dark-breasted.

#### **Eastern Hermit Thrush, *Hylocichla guttata faxoni* Bangs and Penard**

Waller (Baillie & Harrington, n.d.) collected two Hermit Thrushes at Moose Factory on May 17, 1930, and Hewitt saw three on Sandy Island

on May 27, 1947. I collected a female at North Point on June 4. Lewis and Peters (1941) recorded the Hermit Thrush on southern Akimiski Island between September 18 and 20, and Comeau (1915) reports hearing and seeing it along the rivers in the wooded sections, presumably between Cape Tatnam and Owl River in mid August or September, 1914. Both the Moose Factory (Baillie & Harrington, n.d.) and the North Point specimens are referable to the eastern race.

**Olive-backed Thrush, *Hylocichla ustulata swainsoni* (Tschudi)**

Spreadborough (Macoun & Macoun, 1909, p. 741) reported the Olive-backed Thrush common on Moose River in June, 1896. A specimen obtained by McKenzie, and another on July 3, 1860, by Drexler, are in the Smithsonian collection, Baird (1874, p. 21). Waller (Baillie & Harrington, n.d.) collected a nest with three eggs at Moose Factory on June 27, 1930. On September 9, 1950, Macpherson collected a male Olive-backed Thrush on Sandy Island, and on September 24, 1947, Hewitt saw four on Ship Sands. On June 22, I collected a male at Attawapiskat and on June 26 at Cape Duncan observed a thrush which was thought to be of this species. Preble (1902, p. 130) collected two specimens at York Factory, where he found it less abundant than farther up Hayes River. Godfrey and Wilk (1948) include the area here discussed within the range of *H.u. swainsoni*. Among the large series they examined from across Canada were one from Moose Factory, one from Moosonee, three from Albany, and the above Attawapiskat male.

**Gray-cheeked Thrush, *Hylocichla minima minima* (Lafresnaye)**

Preble (1902, p. 129) collected a female Gray-cheeked Thrush and two young just out of the nest at York Factory on July 13, 1900.

**\*Eastern Bluebird, *Sialia sialis sialis* (Linnaeus)**

Haydon collected a bluebird at Moose Factory in 1881 (Preble, 1902, p. 131), and in 1904, Spreadborough reported it along Moose River to within a short distance of Moose Factory (Macoun & Macoun, 1909, p. 758).

**Eastern Ruby-crowned Kinglet, *Regulus calendula calendula* (Linnaeus)**

The Ruby-crowned Kinglet is often hard to find when it is not singing, and it may be rather more plentiful in the dryer parts of the spruce forests on the west James Bay and southern Hudson Bay coasts than the following records suggest. The United States National Museum catalogue lists a specimen taken in 1881 at Moose Factory by Haydon (Preble, 1902, p. 129). Hewitt saw several at Moosonee on May 22, 1947, and four on Ship Sands on September 24. Lewis and Peters (1941) observed it on southern Akimiski Island between September 18 and 20, 1940. Forster (1772, p. 407) records a specimen, probably from Severn River, and Bell (1884) was given one by Matthews at York Factory.

The hours in the following table show the time spent in the spruce woods.

Place	Date	Hours	Number seen	Number collected
Big Piskwanish.....	June 9, 1947	2	3	1
Long Ridge Point.....	June 14, 1947	1	1	1
Cape Duncan.....	June 27, 1947	2	1	-
Raft River.....	July 12-13, 1947	14	7	1

**American Pipit, *Anthus spinolella rubescens* (Tunstall)**

The American Pipit may nest in small numbers in a few places along the southern coast of Hudson Bay, and it occurs along the west James Bay coast in migration. On May 29 and 30, 1947, we saw a few feeding along the beach at Sandy Island where two were collected. Hewitt saw several near the Moose River estuary between September 22 and 25. On October 2, 1948, Stirrett saw six on Ship Sands. Lewis and Peters (1941) recorded the American Pipit at Attawapiskat about September 16, and on southern Akimiski Island between September 18 and 20, 1940. During the summer of 1947, the only suitable nesting site we examined was at Little Cape. There, I saw twenty-two pipits (four adults and five juveniles collected) in 9 hours walking between July 29 and August 1. Most of them were seen among the driftwood and boulders near the top of the storm beach. Over three-fourths were juveniles. At Shagamu River I saw eleven American Pipits (one juvenile collected) in 7 hours walking on the coastal barrens between August 6 and 10. Preble (1902, p. 128) observed a large flock on September 29 some miles inland on Hayes River above York Factory.

**\*Bohemian Waxwing, *Bombycilla garrulus pallidiceps* Reichenow**

A Bohemian Waxwing sent by McKenzie from Moose Factory is in the Smithsonian Institution (Baird, 1874, p. 407).

**Cedar Waxwing, *Bombycilla cedrorum* Vieillot**

Williams (1920) saw several Cedar Waxwings at Bushy Island on August 20, 1919. A specimen was collected at Moose Factory on August 26, 1860, by Drexler (Baird, 1874, p. 408; Turner, 1886, p. 239), and other specimens were taken there in 1881 by Haydon (Preble, 1902, p. 124). Spreadborough (Macoun & Macoun, 1909, p. 589) reported the Cedar Waxwing common at Moose Factory on June 13, 1896. A nest with seven eggs was found at Moose Factory by Waller in 1929 (Baillie & Harrington, n.d.). On June 23, 1949, a flock of eight Cedar Waxwings flew over our camp on Sandy Island, and a male was collected. Another male was collected on June 26 from a flock of about ten feeding at the top of the balsam poplars on Sandy Island. On June 27, Macpherson collected a third male on Haysey Island. Williams (1921) saw a Cedar Waxwing at the estuary of the Albany River on August 18, 1920.

**Northern Shrike, *Lanius excubitor borealis* Vieillot**

A Northern Shrike was collected by Haydon at Moose Factory in 1881 (Preble, 1902, p. 124), and another received from McKenzie is in the Smithsonian Institution (Baird, 1874, p. 442). On October 5, 1948, Kelsall saw one near the southwest point of Akimiski Island. Hutchins (Thompson, 1891, p. 613) says that the shrike is to be found a little distance inland at all seasons. A specimen is recorded by Forster (1772, p. 386) from Severn River and one by Murray (1859, p. 223) from Severn House. Another, now in the National Museum, was taken at [Fort?] Severn on September 24, 1930, by Conn. Bell (1880) says that the Northern Shrike is common on the west side of Hudson Bay. Matthews gave him a specimen from York Factory (Bell, 1884).

**Starling, *Sturnus vulgaris vulgaris* Linnaeus**

Lewis (1932) saw a flock of seven Starlings at Moose Factory on October 11, 1931. Hewitt saw several at Moosonee and at Moose Factory in 1947. Stirrett saw five at Moose Factory on September 27, 1948. On June 14, 1949, Macpherson and I saw a pair of Starlings carrying nesting material into a hole under the eave of the Hudson's Bay Company's warehouse at Moosonee. Twelve Starlings were seen at Albany on September 22, 1940 (Lewis & Peters, 1941), and a dead, but still warm, Starling was picked up at York Factory by Hugh Conn on May 11, 1931 (Lloyd, 1934).

**Red-eyed Vireo, *Vireo olivaceus* (Linnaeus)**

Spreadborough (Macoun & Macoun, 1909, p. 599) says that the Red-eyed Vireo was very abundant all down Moose River. In 1949 I obtained the following records in the Moose River estuary area. The hours given show the total time of observation.

Place	Date	Hours	Number seen	Number collected
Moosonee.....	June 30-July 1, 1949	6	3	-
Haysey Island.....	June 27, 1949	1½	1	-
Opposite Middleboro Island....	June 23, 1949	2	3	1
Sandy Island.....	June 15-29, 1949	23	9	3

**Philadelphia Vireo, *Vireo philadelphicus* (Cassin)**

A specimen was collected at Moose Factory on June 2, 1860, by Drexler (Baird, 1874, p. 341; Turner, 1886, p. 238), and other specimens were taken there in 1881 by Haydon (Preble, 1902, p. 125). In 1949, Macpherson and I obtained the following records for the Moose River estuary region. The hours given show the total time of observation.

Place	Date	Hours	Number seen	Number collected
Opposite Middleboro Island.....	June 23, 1949	2	5	
Opposite Middleboro Island (Macpherson).	June 23, 1949	1½	3	
Sandy Island.....	June 15-29, 1949	23	4	1

**Black and White Warbler, *Mniotilla varia* (Linnaeus)**

Spreadborough (Macoun & Macoun, 1909, p. 608) found the Black and White Warbler quite common at Moose Factory in June, 1896. Drexler took a specimen there on May 13, and one on May 31, 1860 (Turner, 1886, p. 236). On June 1, 1947, a male was collected near the mouth of Moose River, and on June 27 I thought I saw one at Cape Duncan.

**Tennessee Warbler, *Vermivora peregrina* (Wilson)**

This is one of the commonest warblers along the edge of the bush on both the west James Bay and southern Hudson Bay coasts. They frequent the same habitat as the Yellow Warblers but were seen a few days earlier in the spring. A specimen was collected by Drexler at Moose Factory on June 2, 1860 (Baird, 1874, p. 179), and another by Haydon in 1881 (Preble, 1902, p. 125).

The following table gives my records of this species in 1947 and 1949. The hours given for the former year show the time spent in the edge of the spruce forest and willow thickets, while those for the latter year give the total observing time.

Place	Date	Hours	Number seen	Number collected
Moosonee.....	June 30-July 1, 1949	6	2	-
Opposite Middleboro Island..	June 23, 1949	2	2	-
Sandy Island.....	June 15-29, 1949	23	10	2
North Point.....	June 4, 1947	5	2	-
Big Piskwanish.....	June 9-11, 1947	3	5	4
Long Ridge Point.....	June 14, 1947	3	2	-
Attawapiskat River.....	June 22, 1947	2	5	1
Cape Duncan.....	June 26-27, 1947	7	4	-
Raft River.....	July 10-13, 1947	10	9	5
Shagamu River.....	Aug. 10, 1947	7	4	2 juv.

Preble (1902, p. 125) collected the Tennessee Warbler on July 13, 14, and 16, 1900, at York Factory, where it was fairly common.

**Orange-crowned Warbler, *Vermivora celata celata* (Say)**

A male Orange-crowned Warbler collected on July 1, 1949, in the new growth of willow and tamarack near Moosonee station, and two females collected at Big Piskwanish on June 11, 1947, are referable to *V. c. celata*. Oberholser (1905) refers a specimen from York Factory, probably the one collected by Preble (1902, p. 125) on July 16, 1900, to the same race.

**Newfoundland Yellow Warbler, *Dendroica petechia amnicola* Batchelder**

The Yellow Warbler is a common summer resident in the alder thickets along the west James Bay and southern Hudson Bay coasts. The catalogue of the United States National Museum records a specimen taken at Moose Factory in 1881 by Haydon (Preble, 1902, p. 125). Kelsall and Lemieux saw two on Sandy Island on June 3, 1947. Most of the Yellow Warblers which we saw in 1949 at Sandy Island were in the willow thickets near the river bank just west of our camp. On June 18, I observed a female there, flopping about on the ground with outstretched wings and presumably trying to attract me from its nest. On Ship Sands, Yellow Warblers were seen in the patches of fairly high willow at the edge of the barrens. In 1947 Yellow Warblers were usually seen in the deciduous bush that grows in the swamps between the spruce and the barren coastal areas.

The hours given in the following table for 1949 refer to the whole time we spent observing, but those for 1947 represent only the time spent in the deciduous bush and at the edge of the spruce.

Place	Date	Hours	Number seen	Number collected
Moosonee.....	June 30-July 1, 1949	6	2	-
(Macpherson).....	June 25, July 1-2, 1949	7	1	-
Opposite Middleboro Island.....	June 23, 1949	2	2	-
Sandy Island.....	June 15-29, 1949	23	15 }	3
(Macpherson).....	June 15-29, 1949	20	2 }	
Ship Sands.....	June 17, 1949	5	2 }	3
(Macpherson).....	June 17, 18, 1949	9	3 }	
Long Ridge Point.....	June 14, 1947	3	1	-
Albany River.....	June 19, 1947	2	8	4
Attawapiskat River.....	June 22, July 5-6, 1947	7	49	11
Cape Duncan.....	June 26-27, 1947	7	13	-
Island X.....	July 3, 1947		Total population: 4	
Raft River.....	July 8-12, 1947	10	4	-
Shagamu River.....	Aug. 10, 1947	7	2	-

Murray (1859, p. 222) obtained a Yellow Warbler from Severn House, and Bell (1884) one from York Factory, where Preble (1902, p. 125), who says it was rather common, took specimens. Our 1947 and 1949 southern James Bay specimens clearly represent the northern race. No material is available for the northern James Bay and southern Hudson Bay coasts, but it is logical to suppose that birds from there would be referable to the same race, since it extends across northern Canada (Oberholser, 1938; Rand, 1944a).

**Magnolia Warbler, *Dendroica magnolia* (Wilson)**

Spreadborough (Macoun & Macoun, 1909, p. 637) says that the Magnolia Warbler was common at Moose Factory in June, 1896. A specimen in the Smithsonian Institution was obtained from there by McKenzie, and another by Drexler on May 28, 1860 (Baird, 1874, p. 206).

Haydon (Preble, 1902, p. 126) collected others at Moose Factory in 1881. On June 27, 1949, Macpherson collected a single female at the edge of the Moosonee town clearing, and I obtained a male in the same situation on July 1.

**\*Cape May Warbler, *Dendroica tigrina* (Gmelin)**

Drexler collected a male Cape May Warbler at Moose Factory on May 28, 1860 (Baird, 1874, p. 182; Turner, 1886, p. 237), and other specimens from the same place are in the United States National Museum (Preble, 1902, p. 125).

**Eastern Myrtle Warbler, *Dendroica coronata coronata* (Linnaeus)**

The Myrtle Warbler is a summer resident in the dryer spruce forests on both the west James Bay and southern Hudson Bay coasts. Drexler obtained specimens at Moose Factory on July 21, 1860 (Turner, 1886, p. 237). On May 24, 1947, Hewitt saw four Myrtle Warblers at Moose Factory and on May 27, several on Sandy Island. In 1940, Lewis and Peters (1941) recorded the Myrtle Warbler on southern Akimiski Island between September 18 and 20, and last saw it at Albany on September 22.

The hours given in the following table show the time spent in the spruce forests, except as otherwise stated.

Place	Date	Hours	Number seen	Number collected
Sandy Island.....	June 1, 1947	2	1	1
Ship Sands.....	Sept. 9, 1950	4 (edge of willow)	3	-
Big Piskwanish.....	June 10, 1947	2	1	1
Cape Duncan.....	June 27, 1947	2	3	-
Raft River.....	July 10-13, 1947	14	6	3
Shagamu River.....	Aug. 9-11, 1947	7	21	1 + 3 juv.

About three-quarters of the Myrtle Warblers seen at Shagamu River were juveniles. The wing measurements of the adults are: ♂♂, Moose River, 74 mm.; Raft River, 75 mm., 72 mm.; Shagamu River, 74 mm.; ♀♀, Big Piskwanish, 70 mm.; Raft River, 69 mm. The average wing measurement of the males (73·8 mm.) is slightly closer to that given by Godfrey (1949b) for eight males from the Mistassini region than to that given for eight males from Alaska and southern Yukon. Our James Bay and southern Hudson Bay males also average more black on the breast than do specimens of *D. c. hooveri* from Alaska and the Yukon. James Bay males agree in this character fairly closely with Quebec males.

**\*Black-throated Green Warbler, *Dendroica virens virens* (Gmelin)**

Spreadborough observed this species on Moose River nearly to Moose Factory (Macoun & Macoun, 1909, p. 650).

**\*Blackburnian Warbler, *Dendroica fusca* (Müller)**

Murray (1859, p. 222) received a specimen (*Sylvicola parus*) from Severn House.

**\*Bay-breasted Warbler, *Dendroica castanea* (Wilson)**

Drexler collected a male at Moose Factory on June 2, 1860, and another specimen in the Smithsonian Institution was obtained there by McKenzie (Baird, 1874, p. 190).

**Black-poll Warbler, *Dendroica striata* (Forster)**

On August 10 and 11, 1947, we collected two juvenile Black-poll Warblers at Shagamu River. Preble (1902, p. 126) saw a pair in a thicket a few miles up Hayes River above York Factory, and on arriving at that post he found them rather common. *Muscicapa striata* was described by Forster (1772, pp. 406, 428) who records a male and a female from Severn River.

**\*Northern Pine Warbler, *Dendroica pinus pinus* (Wilson)**

Bell (1884) received a warbler from York Factory which he tentatively identified as this species.

**Western Palm Warbler, *Dendroica palmarum palmarum* (Gmelin)**

On September 24, 1940, Lewis and Peters (1941) recorded the Palm Warbler at Moosonee, where, on September 18, 1938, Lewis (1939) had observed a marked southward movement of this species. Hewitt saw one there on May 22, 1947, and one at Ship Sands on September 24. Macpherson collected a male on June 25, 1949, and another on July 2; I collected a pair on July 1. These four were all near the edge of the Moosonee town clearing. On September 9, 1950, I saw and collected four juveniles at the edge of the willow on Ship Sands, and one in a similar situation on Sandy Island. On July 5, 1947, I obtained a female in the willow thickets at the mouth of Attawapiskat River. Turner (1886, p. 237) refers a specimen obtained by Drexler at Moose Factory in July, 1860, to *D. p. hypochrysea*. Our five specimens, however, are referable to *D. p. palmarum*, although in the Moosonee birds, the yellow on the throat

and breast is slightly brighter, and more extensive on the belly than in a series from Manitoba. It is, however, much less pronounced than in a series of *D. p. hypochrysea* from New Brunswick, Lake St. John (See Godfrey and Wilk, 1948), and Ottawa (See Rand, 1944b). The dorsal parts of the breeding James Bay birds agree closely with the Manitoba series, except that they seem slightly darker. They are less olivaceous than typical *D. p. hypochrysea*. The four juveniles agree well with comparable specimens from Manitoba and Saskatchewan. The wing chords of our specimens measure: Moosonee breeding ♂♂, 65 mm., 64·5 mm., 65 mm.; ♀, 62 mm. Ship Sands juvenile ♂♂, 66 mm., 66 mm. Attawapiskat ♀, 60 mm. Two adults collected by D. F. Coates at Carling Lake are typical *D. p. palmarum*.

**Eastern Oven-bird, *Seiurus aurocapillus aurocapillus* (Linnaeus)**

An Oven-bird taken by Haydon at Moose Factory in 1881 is recorded in the catalogue of the United States National Museum (Preble, 1902, p. 127). On June 19, 1949, W. K. W. Baldwin saw an Oven-bird in the poplar grove on Sandy Island. I collected a male at the same spot on June 24 and saw another near there on June 29.

**Grinnell Water-Thrush, *Seiurus noveboracensis notabilis* Ridgway**

The Northern Water-Thrush appears to be a fairly evenly distributed summer resident in the willow thickets and at the edge of the spruce woods along both the west James Bay and southern Hudson Bay coasts. In 1896, Spreadborough (Macoun & Macoun, 1909, p. 659) found Water-Thrushes "very abundant all the way down the Moose River to Moose Factory", and Drexler collected a male at Moose Factory on May 26, 1860 (Baird, 1874, p. 216; Turner, 1886, p. 238). Most of the Water-Thrushes seen by us in 1947 and 1949 were in the tall willow thickets. In the following table the hours given for 1949 represent the total time spent observing, while those for 1947 show only the time spent in the deciduous thickets and at the edge of the spruce forests.

Place	Date	Hours	Number seen	Number collected
Moosonee.....	June 30- July 1, 1949	6	1	1
(Macpherson) .....	June 25, July 1, 2, 1949	7	1	1
Haysey Island.....	June 27, 1949	1½	1	1
Sandy Island.....	May 30, 1947 June 15-29, 1949	— 23	— 3	1 1
Attawapiskat River.....	July 5, 1947	5	1	1
Raft River.....	July 10, 1947	10	2	1
Shagamu River.....	Aug. 8, 1947	7	2	1 juv.

The specimen collected at Attawapiskat had a well developed incubating patch.

Murray (1859, p. 222) received a specimen of the Water-Thrush from Severn House, and Preble (1902, p. 127) collected three in the marshy woods about York Factory where the species was common during his stay from July 11 to 17, 1900. Our specimens compare well in colour with a series from the Prairie Provinces and are referred to *S. n. notabilis* (Cf. Todd, 1943; Godfrey, 1949b).

**Mourning Warbler, *Oporornis philadelphia* (Wilson)**

On June 20, 1949, Macpherson collected a male Mourning Warbler on Sandy Island. One was seen at Albany on September 22, 1940 (Lewis & Peters, 1941).

**Northern Yellow-throat, *Geothlypis trichas* subsp.**

Spreadborough (Macoun & Macoun, 1909, p. 669) saw a Yellow-throat on the Moose River near Moose Factory on June 7, 1896. Hewitt saw two at Moosonee on May 22, 1947, one at Sandy Island on May 27, and four at Ship Sands on September 24 and 25. Kelsall and Lemieux saw one on Sandy Island on June 13, 1947. On June 19, 1949, I saw two (one collected), and on September 8, 1950, four (one juvenile collected) on Sandy Island. Macpherson saw one near Langland's Gutway on June 21. In 1940, Lewis and Peters (1941) last saw this species at Albany on September 22.

Our single Sandy Island adult male (wing chord, 55.5 mm., tail, 47.5 mm.) agrees well in colour with ten comparable but worn males from the Ottawa region: wing chord, 54.8 mm. (52.5-57 mm.), tail 47.5 mm. (43.5-50 mm.), and three from Lake Mistassini. The upper parts of this group are greyer and average less yellowish than two New Brunswick males. Sufficient material is not available to check the conclusions drawn by Oberholser (1948), who has named the northeastern Ontario bird *G. t. ontarionica*.

**Wilson's Warbler, *Wilsonia pusilla pusilla* (Wilson)**

The United States National Museum catalogue records a Wilson's Warbler taken at Moose Factory in 1881 by Haydon (Preble, 1902, p. 128), and Spreadborough (Macoun & Macoun, 1909, p. 673) found it common there on June 9, 1896. In late August, 1947, Kelsall and Lemieux saw several at Sandy Island. On July 1, 1949, I saw three (two collected) at the edge of the Moosonee town clearing. Next day, Macpherson saw three (one collected) and found a nest with five young in the same area. The female was on the nest. Preble (1902, p. 127) saw several Wilson's Warblers at York Factory between July 10 and 17, 1900, and collected one on July 14.

**\*Canada Warbler, *Wilsonia canadensis* (Linnaeus)**

The United States National Museum catalogue records a specimen of the Canada Warbler taken at Moose Factory by Haydon in 1881 (Preble, 1902, p. 128), and Spreadborough (Macoun & Macoun, 1909, p. 676) saw one there on June 11, 1896.

**Northern Redstart, *Setophaga ruticilla tricolora* (Müller)**

Spreadborough (Macoun & Macoun, 1909, p. 678) reported that the American Redstart was common all along Moose River to James Bay, and on June 9, he found a nest with two eggs in a white birch about four feet from the ground. He was at Moose Factory on that date in 1896 (Macoun & Macoun, 1909, p. 672). At Moose Factory, Waller found a nest with four eggs on June 25, 1930 (Baillie & Harrington, n.d.) and Baird (1874) records an American Redstart collected at Moose Factory by Drexler on May 26, 1860. Hutchins (Thompson, 1891) says that one was shot at Fort Albany, where it was not known to the natives. Wetmore (1949) has referred Moose Factory and central Ontario birds to the northern race.

**English Sparrow, *Passer domesticus domesticus* (Linnaeus)**

Williams (1920) saw three English Sparrows at Moose Factory on August 18, 1919. He was told by Mr. McLeod that English Sparrows came to Moose Factory about 1911 and that many died every winter. Weaver (1939) also mentions their occurrence at Moose Factory.

**Bobolink, *Dolichonyx oryzivorus* (Linnaeus)**

"Its occurrence as far north as Moose Factory (one shot by Robert McLeod on Hudson's Bay Company's field) is attested by S. Waller." (Baillie & Harrington, n.d.)

**\*Western Meadowlark, *Sturnella neglecta* Audubon**

Todd (1943) records a single specimen from James Bay without giving an exact locality.

**\*Yellow-headed Blackbird, *Xanthocephalus xanthocephalus* (Bonaparte)**

Murray (1859) received a specimen of the Yellow-headed Blackbird from "Hudson's Bay", but it had probably been taken at one of the Hudson's Bay Company's inland posts.

**Giant Red-wing, *Agelaius phoeniceus arctolegus* Oberholser**

Waller (Baillie & Harrington, n.d.) collected a Red-wing at Moose Factory on May 30, 1930. On June 15, 1949, Macpherson saw four Red-wings in a sedge and cattail marsh on Sandy Island. One pair was collected. The other pair was again seen at the same place on June 22. On June 21, I saw two pairs (one pair collected) at another cattail marsh near Sandy Island. In 1947, I saw thirty-five (seven collected) Red-wings on June 3 and 4 in four hours' walking in the cattail marshes and willow thickets at North Point. They were mostly paired, evidently nesting or going to nest. Two Red-wings were seen by MacKenzie at Big Piskwanish on June 11, and two (one collected) by me at Long Ridge Point on June 14. Todd (1943) has referred a small series of Red-wings from the south shore of James Bay to *A. p. arctolegus*, and our specimens are clearly referable to that race. Their measurements are: 6 ♂♂, wing chord, 125·8 mm. (118-131 mm.); culmen, 5 ♂♂ 23·9 mm. (23·5-24·5 mm.) 6 ♀♀, wing chord, 102·7 mm. (99-106 mm.); culmen, 20 mm. (19-21·2 mm.). The dark streaks on the underparts of our James Bay females are distinctly wider

than those on five females of *A. p. phoeniceus* from Lake St. John: wing chord, 99 mm. (97-103 mm.); culmen 19.1 mm. (18.5-20 mm.). These streaks also average wider than those in a series of ten probably breeding females from the Ottawa region: wing chord, 100.2 mm. (94-103 mm.); culmen, 18.9 mm. (18.0-20.5 mm.).

**\*Baltimore Oriole, *Icterus galbula* (Linnaeus)**

Matthews gave Bell (1884) a specimen of the Baltimore Oriole from York Factory.

**Rusty Blackbird, *Euphagus carolinus* (Müller)**

This species probably breeds sparingly among the willow thickets from Moose Factory to York Factory. The catalogue of the United States National Museum contains the record of a specimen taken by Haydon at Moose Factory in 1881 (Preble, 1902, p. 117). Hewitt saw three at Sandy Island on May 26, 1947, and two at Ship Sands on September 25. Stirrett noted a flock of thirty-five at Moose Factory on September 27, 1948. Lewis and Peters (1941) observed the species at Moose Factory on September 15, 1940, and on southern Akimiski Island on September 19. Forster (1772, p. 400) describes, but does not name, a male and female received from Severn River. Murray (1859) received a specimen from Severn House, and Bell (1880) records a male from York Factory. Comeau (1915) says that Rusty Blackbirds were quite common in flocks about the west coast of Hudson Bay between Cape Tatnam and Owl River in late August or September, 1914. Blakiston (1863, p. 83) reported a blackbird, presumably this species, common at York Factory.

In the following table the hours given show the time spent in the willow thickets and open spruce.

Place	Date	Hours	Number seen	Number collected
Cape Duncan.....	June 26-27, 1947	7	6	-
Lat. 53° 45'.....	July 14, 1947	1½	7	2 + 1 juv.
Shagamu River.....	Aug. 10, 1947	6	6	1 + 4 juv.
Cape Tatnam.....	Aug. 28, 1947	4	1	1 juv.

The Rusty Blackbirds which were seen at latitude 53° 45' among some outlying spruce and willow scrub on a dry ridge were evidently a pair with their five young.

**Bronzed Grackle, *Quiscalis quiscula versicolor* Vieillot**

The United States National Museum catalogue records a Bronzed Grackle taken by Haydon at Moose Factory in 1881 (Preble, 1902, p. 117). Macpherson collected a female referable to this race on the shore of Haysey

Island on June 27, 1949. Bell records the Bronzed Grackle at York Factory, and Blakiston (1863, p. 84) received a specimen from Hudson Bay [probably York Factory].

**Nevada Cowbird, *Molothrus ater artemisiae* Grinnell**

During a heavy snowstorm, on May 27, 1947, Hewitt collected a female cowbird at the mouth of Moose River. Its measurements were: wing chord, 100 mm.; bill from nostril, 11·2 mm.; depth of bill at base, 10 mm. In colour also, this specimen matches a series of the western form from the Prairie Provinces much better than does a series of *M. a. ater* from the Ottawa region. Moreover, the bill is distinctly long and slender.

**Eastern Purple Finch, *Carpodacus purpureus purpureus* (Gmelin)**

A Purple Finch was collected at Moose Factory by Drexler on May 28, 1860 (Turner, 1886, p. 239), and by Haydon in 1881 (Preble, 1902, p. 118). Spreadborough found it common near Moose Factory in 1896 (Macoun & Macoun 1909, p. 453). Stirrett saw fifteen at Moose Factory on October 2, 1948, and five near the southwest point of Akimski Island on October 4.

**Canadian Pine Grosbeak, *Pinicola enucleator leucura* (Müller)**

An unsexed specimen of the Canadian Pine Grosbeak in the National Museum was collected on Moose Island by Frits Johansen on October 3, 1930. Forster (1772, p. 402) records two specimens from Severn River, and Murray (1859, p. 223), one from Severn House. Edwards (1750, pp. 123-124) received a male and a female from Isham, who reported that they spent all winter in that region. Richardson (Swainson & Richardson, 1831, p. 262) has apparently taken this to mean at York Factory, where Drage (1749, p. 5) saw fifteen on January 25, 1747. Markham (Fielden, 1887) collected one near York Factory about August 6, 1886.

The wing chord of Johansen's specimen is 115 mm. and therefore, if a male, it might be referred either to *P. e. leucura* or *P. e. echatosa*. Godfrey (1949b) refers specimens from the Lake Mistassini region to the latter race. A single male (wing chord, 109 mm.) collected by Johansen on Charlton Island on September 22, 1920, is also referable to *P. e. echatosa*. The race wintering in southern Ontario seems to be mainly *P. e. echatosa* (wing chord of three London males, 112 (110-114) mm., and two females, 103 mm. and 110 mm.), but nine wintering males (wing chord, 118 (114-122) mm.) from the Ottawa region are referable to *P. e. leucura*, and only two (wing chord, 111 mm. and 112 mm.) appear definitely to be *P. e. echatosa*. The majority of eight wintering Ottawa females (wing chord, 112(107-119) mm.) are also referable to the larger race. No breeding material in northern Ontario is available, but from the foregoing it is not possible to be sure which race breeds in the southern James Bay region, but farther north towards the southern Hudson Bay coast, *P. e. leucura* is almost certainly the race represented, and Sutton (Taverner & Sutton, 1934) refers two breeding specimens from Churchill to that race.

**Greenland Redpoll, *Acanthis hornemanni hornemanni* (Holboell)**

Murray (1859, p. 223) received from Severn House a specimen of the "Mealy Redpoll *Linota borealis-canescens* (Gould)" which may be referable to this or to the following form. Bell (1882) says he collected at York Factory a specimen of the "mealy redpoll (*Aegiothus canescens*, Cabanis) hitherto found only in Greenland." The correctness of this record is rendered more probable by the collection of a male at Churchill and other specimens from Southampton Island (Taverner & Sutton, 1934).

**Hoary Redpoll, *Acanthis hornemanni exilipes* (Coues)**

On August 9, 1947, MacKenzie collected a female (wing, 74 mm.; culmen, 8 mm.) which is tentatively referred to *A. h. exilipes*, Preble (1902, p. 118) collected three Hoary Redpolls at York Factory in July, 1900.

**Common Redpoll, *Acanthis flammea flammea* (Linnaeus)**

The Common Redpoll appears to be a fairly well distributed summer resident in certain places along the west James Bay and southern Hudson Bay coasts, and it probably nests in some sections. At Moosonee on September 25, 1938, between 7.15 a.m. and 8.30 a.m., Lewis (1939) recorded 241 Common Redpolls in flocks of five to sixty birds flying steadily southward at a height of 30 to 50 feet. Macpherson collected a pair of Common Redpolls from a clump of willow on Ship Sands on June 18, 1949, and I saw one on Sandy Island on June 22. On June 15, 1947, MacKenzie collected two Common Redpolls from a small flock at Long Ridge Point, and I saw two more (one collected) at the same place next day. At Little Cape I saw five between July 29 and August 1, and collected three, of which the only female obtained had an old incubating patch and had probably nested among the dwarf birch along the ridge where it was seen. Between August 8 and 10 at Shagamu River, I saw four Redpolls, of which three, including a probable pair, were collected. A specimen from Severn River is recorded by Forster (1772, p. 405). At Cape Tatnam, I saw eight Common Redpolls on August 28 and collected one adult and one juvenile male. Between July 12 and 16, 1900, Preble (1902, p. 118) collected eight specimens at York Factory, where this species was abundant. Comeau (1915) reported it "common in flocks", presumably between Cape Tatnam and Owl River in late August or September, 1914.

**\*Holboell's Redpoll, *Acanthis flammea holboellii* (Brehm)**

"A specimen (No. 89311) taken at Moose Factory in 1881 by Walton Haydon, and now in the U.S. National Museum collection, seems to be a typical example of this form." (Preble, 1902, p. 118.)

**\*Eastern Goldfinch, *Spinus tristis tristis* (Linnaeus)**

Stirrett saw five Goldfinches at Attawapiskat on October 7, 1948. The eastern race is the most likely form there.

\***Red Crossbill, *Loxia curvirostra* subsp.**

Forster (1772, p. 402) records two specimens of the Red Crossbill from Severn River. Griscom (1937, p. 143) includes this region within the range of *L. c. neogaea*.

\***White-winged Crossbill, *Loxia leucoptera leucoptera* Gmelin**

Williams (1921) reported the White-winged Crossbill to be the commonest bird throughout his trip, July 25 to September 16, 1920, on Albany River to and from Fort Albany, where he arrived in mid-August. According to Pennant (1785, p. 347), they arrive at Severn River at the latter end of May but go farther north to breed. Murray (1859, p. 223) received specimens from Hudson Bay and Severn House, and Baird (1858, p. 428) records one specimen from Nelson River. The White-winged Crossbill described by Latham (1783, p. 108) from specimens from Hudson Bay and New York formed the basis of Gmelin's description of *Loxia leucoptera* (A.O.U., 1931).

**Churchill Savannah Sparrow, *Passerculus sandwichensis oblitus***  
Peters & Griscom

Taking the coasts as a whole from Moose River to York Factory, Savannah Sparrows were the most numerous birds in 1947. We found them among the long grass of the coastal barrens, occasionally in open grass or scrub areas behind the first lines of spruce, and at Attawapiskat River, among the tall willow and alder, but the greatest numbers were in the dwarf willow and birch at the edge of the barrens, especially at places like Lake River where this covered a wide area. We occasionally saw Savannah Sparrows among isolated spruce patches, such as grow near the edge of the bush at the Raft River but never in the main spruce forest. Savannah Sparrows undoubtedly nest in considerable numbers among the willow patches at the edge of the barrens on Ship Sands, and a few probably nest in the Moosonee town clearing. Williams (1920) says this was the commonest sparrow along Moose River in mid-August, 1919. Waller (Baillie & Harrington, n.d.) found a nest with six eggs on Mansy Island near Moose Factory. In 1904 Spreadborough (Macoun & Macoun, 1909, pp. 498-499) reported it abundant along the west coast of James Bay, where, on July 7, he saw three nests just above high-water mark. Lewis and Peters (1941) recorded it on southern Akimiski Island between September 18 and 20, 1940. In 1947 I found the first nest on June 26 at Cape Duncan. It had five eggs. The first juveniles were seen on the wing at latitude 53° 45' on July 19. At Lake River, a quarter of those listed in the table were juveniles, and at Little Cape and afterwards, half. At Cape Tatnam the Savannah Sparrows were just beginning to collect into small flocks. Preble (1902,

p. 120) found the Savannah Sparrow especially common on the marsh at Beacon Point in mid-July, and Comeau (1915) says it was one of the commonest sparrows, presumably between Cape Tatnam and Owl River, in late August or September, 1914.

The hours given in the following table show the total time spent observing at each place, less the time in the main spruce woods and deep alder thickets where Savannah Sparrows were scarce or absent.

Place	Date	Hours	Number seen	Number collected
Moosonee.....	June 30- July 1, 1949	6	6	-
(Macpherson).....	June 25, July 1, 2, 1949	7	2	-
Sandy Island.....	May 29-30, 1947	-	-	3
(Macpherson).....	June 15-29, 1949	16	1	1
Ship Sands.....	May 31, 1947	3½	15	1
	June 17, 1949	5	100 }	
(Macpherson).....	June 17-18, 1949	8½	140 }	19
North Point.....	June 3-6, 1947	10	130	12
Big Piskwanish.....	June 9-12, 1947	8	70	1
Long Ridge Point.....	June 14-16, 1947	9	80	4
Albany River.....	June 19, 1947	2	10	-
Attawapiskat River.....	June 21-23, July 5-6, 1947	4	15	3
Island X.....	July 3, 1947		Total population:	30
Cape Duncan.....	June 26-27, 1947	6	80	4
Raft River.....	July 8-13, 1947	6	80	7
Lat. 53° 45'.....	July 14, 1947	2	40	-
Lake River.....	July 17, 1947	7	400	2
Cape Henrietta Maria.....	July 21-24, 1947	16	60	-
Little Cape.....	July 29- Aug. 1, 1947	13	255	2 + 3 juv.
Shagamu River.....	Aug. 8-11, 1947	8	100	2 + 2 juv.
Cape Tatnam.....	Aug. 22-28, 1947	13	340	3 juv.

Both James Bay and Hudson Bay birds are referable to *P. s. oblitus*. Peters and Griscom (1948) also referred seven James Bay (Ontario) and five York Factory specimens to this race.

**Leconte's Sparrow, *Passerherbulus caudacutus* (Latham)**

Todd (1943) mentions the occurrence of Leconte's Sparrow in the James Bay region. On June 18, 1949, Macpherson collected a male on the grassy barrens of Ship Sands, and on June 11, 1947, I collected a male in the long grass near the edge of the bush at Big Piskwanish.

**James Bay Sparrow, *Ammospiza caudacuta altera* Todd**

The James Bay Sparrow probably breeds in fair numbers in the long-grass coastal barrens of the west James Bay coast north to Albany River. Several were seen at Ship Sands by Hewitt between September 22 and 25, 1947, and by Stirrett on October 2, 1948. On June 17, 1949, I counted four at Ship Sands in 5 hours walking, and Macpherson six in 9 hours on June 17 and 18. We collected six. On June 23 Macpherson collected a male on Sandy Island. This sparrow was recorded by Kelsall and Lemieux at Albany on June 27, 1947, and by Stirrett on Akimiski Island on October 5. On July 10, 1947, MacKenzie collected a male among the willows at Raft River. Peters (1942) refers the following west James Bay specimens to *A.c. altera*, the type locality of which is Eastmain on the east James Bay coast: Sandy Island, three males, September 3, 1923; Moose Factory, one male, July 5, 1908; Moosonee, 3 males, July 8, 1939; one male, July 12, 1939; Attawapiskat post, one female, August 3, 1939; one male, August 8, 1938. Our seven James Bay specimens and five collected at Fort Albany by C. E. Hope and T. M. Shortt in mid-June form a remarkably uniform series which in general coloration is intermediate between one of seven comparable *A.c. subvirgata* from Nova Scotia and another of twenty-five *A.c. nelsoni* from southern Manitoba and Saskatchewan, all in the National Museum. All twelve James Bay specimens can be individually separated from all the above Nova Scotia and prairie birds. A specimen from The Pas is referable to *A.c. nelsoni*.

**Eastern Vesper Sparrow, *Pooecetes gramineus gramineus* (Gmelin)**

Waller took a nest with eggs on June 16, 1930, at Moose Factory (Baillie & Harrington, n.d.).

**Slate-colored Junco, *Junco hyemalis hyemalis* (Linnaeus)**

The Slate-colored Junco is a summer resident on the west James Bay and southern Hudson Bay coasts, but it probably nests only in its favourite habitat of comparatively dry open spruce forest. One was collected at Moose Factory by Haydon in 1881 (Preble, 1902, p. 122), Waller collected a nest with four eggs at Moose Factory on June 16, 1930 (Baillie & Harrington, n.d.). Stirrett saw six Slate-coloured Juncos there on October 2, 1948, and Spreadborough (Macoun & Macoun, 1909, p. 552) observed a few on both sides of James Bay in 1904. Williams (1921) saw several almost every day between Fort Albany and Pagwa, August 22 to September 13, 1920; Stirrett saw five at Attawapiskat on October 7, 1948, and Lewis and Peters (1941) recorded it on Akimiski Island between September 18

and 20, 1940. Forster (1772, pp. 406, 428) received a specimen from Severn River, where apparently it was rather rare, being seen only in June and autumn.

In the following table the hours given represent the time spent in the spruce.

Place	Date	Hours	Number seen	Number collected
Sandy Island.....	May 30, 1947	-	-	1
North Point.....	June 6, 1947	Beach	3	2
Big Piskwanish.....	June 11, 1947	2	4	1
Raft River.....	July 10-12, 1947	14	10	6 + 1 juv.
Shagamu River.....	Aug. 8-10, 1947	7	25	5 juv.
Cape Tatnam.....	Aug. 28, 1947	3	1	-

The three juncos seen on the beach at North Point were presumably migrants. There was an egg in the oviduct of a specimen taken on July 13 at Raft River, and a juvenile taken on the same day was just able to fly. All those collected at Shagamu River and all but five of those seen there were juveniles.

#### **Eastern Tree Sparrow, *Spizella arborea arborea* (Wilson)**

The Tree Sparrow is a common nesting bird among the low scrub at the edge of the bush along the west James Bay and southern Hudson Bay coasts, but it is apparently absent from the very barren Cape Henrietta Maria Peninsula. The catalogue of the United States National Museum records one taken by Haydon in 1881 at Moose Factory (Preble, 1902, p. 122). Spreadborough observed Tree Sparrows migrating south at Albany, and from there to Missinabi on his way up Moose River (Macoun & Macoun, 1909, p. 519) probably in September, 1904. On October 7, 1948, Stirrett saw five at Attawapiskat, and on October 5, five near the southwest point of Akimiski Island. Lewis and Peters (1941) recorded the Tree Sparrow on southern Akimiski Island between September 18 and 20, 1940. Forster (1772, p. 405) received a specimen from Severn River, where he says it arrived in May, and Murray (1859, p. 223), one from Severn House. Blakiston (1863, p. 78) observed Tree Sparrows in August from York Factory to Lake Winnipeg.

Most of the Tree Sparrows which we saw prior to Long Ridge Point were in small flocks near the edge of the willow swamps. Those seen later were probably breeding birds. At Little Cape, the Tree Sparrows were in the dwarf birch and willow where they had probably nested. About half were juveniles. At Shagamu River and Cape Tatnam, where three-quarters were juveniles, they were also mostly in the dwarf willow and birch, but a few were seen among the spruce.

The hours given in the following table represent the total time spent observing at the different stations.

Place	Date	Hours	Number seen	Number collected
Sandy Island.....	June 1, 1947	4	-	2
North Point.....	June 4-6, 1947	11½	20	7
Big Piskwanish.....	June 9-12, 1947	11	15	-
Long Ridge Point.....	June 14, 1947	11	2	-
Cape Duncan.....	June 27, 1947	9	1	-
Raft River.....	July 13, 1947	22	6	2
Lat. 53° 45'.....	July 14, 1947	2	5	1
Lake River.....	July 17, 1947	7	8	-
Little Cape.....	July 29- Aug. 1, 1947	13	21	5
Shagamu River.....	Aug. 8-10, 1947	18	60	2 + 7 juv.
Cape Tatnam.....	Aug. 28, 1947	15	6	1 juv.

Two specimens from Little Cape and one from Shagamu River are tending towards *S.a. ochracea* in the pale colour of the pileum, but the edging of the feathers of the back is not noticeably light. The wing and tail measurements of the adults from Hudson Bay average slightly greater than those of the James Bay birds, but the difference is probably not significant in view of the large variation and worn state of the plumage. James Bay adults: 6 ♂♂, wing 73·1 mm. (71-77 mm.); tail, 63·5 mm. (61-67 mm.); 6 ♀♀, wing 70·5 mm. (69-73 mm.); tail, 63·3 mm. (61-66 mm.) Hudson Bay adults: 5 ♂♂, wing 75·6 mm. (73-79 mm.); tail, 66·4 mm. (64-70 mm.); 2 ♀♀, wing, 70 mm., 73 mm.; tail, 63 mm., 65 mm.

#### **Eastern Chipping Sparrow, *Spizella passerina passerina* (Bechstein)**

Spreadborough (Macoun & Macoun, 1909, p. 523) says that the Chipping Sparrow was common on June 9, 1896, at Moose Factory; and on June 16, 1930, Waller took a nest there with four eggs (Baillie & Harrington, n.d.)

#### **White-crowned Sparrow, *Zonotrichia leucophrys leucophrys* (Forster)**

#### **Gambel's Sparrow, *Zonotrichia leucophrys gambelii* (Nuttall)**

*Z. leucophrys* was first described by Forster (1772, pp. 403, 426), who records a specimen, No. 50, from Severn River, and another, No. 10, from

Fort Albany. He says it visits Severn settlement in June, and Fort Albany in May. It breeds at Fort Albany and leaves in September. Murray (1859, p. 223) records a specimen from Severn House, and Bell (1884) one from York Factory, where, between July 12 and 14, 1900, Preble (1902, p. 121) found it abundant and collected a small series of adult and young birds not long from the nest.

Place	Date	Number seen	Number collected
Moose River.....	May 28, 1947	-	1
North Point.....	June 5, 1947	-	1
Big Piskwanish.....	June 9, 1947	2	1
Cape Duncan.....	June 26-27, 1947	4	-
Shagamu River.....	Aug. 8-10, 1947	4	3
Cape Tatnam.....	Aug. 26, 1947	3	1 juv.

This species was usually seen among the spruce. Five of those seen at Shagamu River and Cape Tatnam were juveniles. The three specimens taken near the southern end of James Bay are clearly referable to the eastern race, *Z. l. leucophrys* (Cf. Manning, 1949), as is also a male in the National Museum from South Twin Island. The three Shagamu River specimens, however, are *Z. l. gambelii*, although the white on the lores is somewhat reduced in two of them. Taverner and Sutton (1934, p. 78) found *Z. l. gambelii* predominating at Churchill.

#### White-throated Sparrow, *Zonotrichia albicollis* (Gmelin)

The White-throated Sparrow nests to the edge of the bush on both the west James Bay and southern Hudson Bay coasts, but it is probably more numerous inland. It was taken at Moose Factory by Drexler on May 31, 1860 (Turner, 1886, p. 240), and by Haydon in 1881 (Preble, 1902, p. 222). Waller (Baillie & Harrington, n.d.) collected a nest with four eggs at Moose Factory on June 12, 1930, and Stirrett saw two White-throated Sparrows there on October 2, 1948. Spreadborough (Macoun & Macoun, 1909, p. 517) reported them common on the west coast of James Bay north to [the limit of trees south of ?] Cape Henrietta Maria. Williams (1921) heard them at Albany on August 23, 1920. The White-throated Sparrow was recorded on southern Akimiski Island between September 18 and 20, 1940, by Lewis and Peters (1941), and Stirrett saw two near the southwest point of that island on October 4, 1948. Preble (1902, p. 121) noted a few (one collected) at York Factory in mid July, 1900, and inland they were abundant.

The hours given in the following table represent the total time spent observing at each station.

Place	Date	Hours	Number seen	Number collected
Moosonee.....	June 30-July 1, 1949	6	18 }	4
(Macpherson).....	June 25, July 1, 2, 1949	7	12 }	
Haysey Island.....	June 27, 1949	1½	1	-
Opposite Middleboro Island.....	June 23, 1949	2	2	1
Sandy Island.....	May 28-30, 1947	-	Several	3
	June 15-29, 1949	23	26	1
	Sept. 8-10, 1950	4	4	-
Ship Sands.....	May 31, 1947	3½	3	1
North Point.....	June 4, 1947	11½	4	2
Big Piskwanish.....	June 9, 1947	11	-	1
Cape Duncan.....	June 26, 1947	9	3?	-
Attawapiskat River.....	July 5-6, 1947	5	4	1
Raft River.....	July 8-12, 1947	22	15	6
Shagamu River.....	Aug. 8, 1947	18	2	1 juv.

Most of the White-throated Sparrows seen on Sandy Island in 1949 were in the tall willow and poplar within a few hundred feet of the river bank. As this area was frequently visited, the population suggested by the above figures is probably rather bigger than that actually occurring in the area. On July 17, 1947, MacKenzie saw several White-throated Sparrows in the spruce at Lake River. They appeared to be paired, and one of the three collected had an egg in her oviduct. Most of the White-throated Sparrows seen at Raft River were among the spruce, but those seen earlier in the year were in various habitats.

#### Eastern Fox Sparrow, *Passerella iliaca iliaca* (Merrem)

Hewitt saw two Fox Sparrows at Moosonee on May 22, and one at Moose Factory on May 23. Spreadborough (Macoun & Macoun, 1909, p. 548) reported them common on Moose River and on both sides of James Bay in 1904. Williams (1921) saw one each day at Fort Albany between August 20 and 23, 1920. All those seen by us in 1947 and 1949, and listed in the following table, were in the deciduous thickets, and the times given are for that habitat only. The specimens are clearly referable to the eastern race.

Place	Date	Hours	Number seen	Number collected
Moosonee (Macpherson).....	June 25, July 1, 2, 1949	4	1	1
Sandy Island.....	June 15-29, 1949	15	5} 2}	2
(Macpherson).....	June 15-29, 1949	10		
Cape Duncan.....	June 26-27, 1947	6	4	-
Attawapiskat River.....	July 5-6, 1947	5	4	4
Raft River.....	July 9-13, 1947	8	6	2

On July 16, 1900, Preble (1902, p. 123) collected a pair of Fox Sparrows at York Factory, where, he says, they were fairly common in the willow thickets.

**Lincoln's Sparrow, *Melospiza lincolnii lincolnii* (Audubon)**

Drexler procured specimens of the Lincoln's Sparrow at Moose Factory on May 23, 1860 (Turner, 1886, p. 241). Lewis and Peters (1941) observed it at Moose Factory in September or early October, 1940, at Attawapiskat about September 16, and at Albany about September 22. In 1949 Lincoln's Sparrow was one of the commonest birds in the new growth of tamarack and willow on the Moosonee town clearing. In September, 1950, it was abundant in the willow at the edge of the open sedge marshes on Sandy Island. Those seen farther up the west James Bay coast were in fairly open spruce or deciduous thickets.

The hours given in the following table represent the approximate time spent within these habitats.

Place	Date	Hours	Number seen	Number collected
Moosonee.....	June 30- July 1, 1949	6	15 }	9
(Macpherson).....	June 25, July 1, 2, 1949	7	10 }	
Sandy Island.....	June 1, 1947 Sept. 8-10, 1950	- 4	- 28	2 5
Ship Sands.....	Sept. 9, 1950	4	3	1
North Point.....	June 4, 1947	6	1	1
Big Piskwanish.....	June 9, 1947	7	2	1
Raft River.....	July 13, 1947	15	3	2

Preble (1902, p. 123) collected three Lincoln's Sparrows at York Factory where they were rather common between July 13 and 16, 1900.

**Northern Swamp Sparrow, *Melospiza georgiana ericrypta* Oberholser**

Hewitt saw several Swamp Sparrows at the Moose River estuary between September 22 and 25, 1947, and Spreadborough (Macoun & Macoun, 1909, p. 546) reported them abundant in the swampy land from Missinabi to [the limit of trees south of?] Cape Henrietta Maria. In 1947 we found them only on the southern part of the west James Bay coast. They were mostly in small groups of three to five, often feeding near or with the Tree Sparrows.

The hours given in the following table represent the total time spent at the different stations.

Place	Date	Hours	Number seen	Number collected
Sandy Island.....	June 1, 1947	—	—	3
Ship Sands.....	May 31, 1947	3½	5	1
North Point.....	June 3, 1947	11½	4	—
Big Piskwanish.....	June 9-12, 1947	11	16	5
Long Ridge Point.....	June 14, 1947	11	3	—

Preble (1902, p. 123) took two young Swamp Sparrows not long from the nest on July 13 and 16 at York Factory, where the species was rather common. Comeau (1915) saw Swamp Sparrows in the low brush and swampy regions near the rivers, presumably between Cape Tatnam and Owl River in late August or September, 1914. Godfrey (1949a) has shown that *M. g. ericrypta* breeds across the northern part of the species range. Among the large series he examined were three specimens from Moosonee, one from Moose Factory, and three from Albany, as well as the nine specimens listed above. He noted that this James Bay group averaged darker than those from other regions, although birds from south of James Bay were typical *M. g. ericrypta*.

**Dakota Song Sparrow, *Melospiza melodia juddi* Bishop**

Hewitt saw several Song Sparrows at the Moose River estuary between September 22 and 25, 1949. Lewis and Peters (1941) recorded the Song Sparrow on southern Akimiski Island between September 18 and 20, 1940, and in 1904, Spreadborough (Macoun & Macoun, 1909, p. 538) reported it for 200 miles up the west James Bay coast.

In the following table the hours given show the total time spent at each station. Most of the Song Sparrows, however, were seen among the lower patches of willow. The female Raft River specimen had an incubating patch.

Place	Date	Hours	Number seen	Number collected
Moosonee (Macpherson).....	June 25, July 1, 2, 1949	7	1	-
Sandy Island.....	May 30, 1947	-	-	1
	June 15-29, 1949	23	10	
(Macpherson).....	June 15-29, 1949	20	15	5
	June 17, 1949	5	5	
Ship Sands.....	June 17-18, 1949	9	14	3
	June 17-18, 1949	11	5	
Big Piskwanish.....	June 11, 1947	11	3	2
Long Ridge Point.....	June 14, 1947	11	3	2
Raft River.....	July 9-12, 1947	22	1	2

Our fifteen James Bay specimens form a uniformly coloured series with a generally greyish tone to the upper parts and large black centres to the feathers on the back. They compare well with specimens from Manitoba (chiefly The Pas and Shoal Lake), Saskatchewan (Cypress Lake), and Alberta (Lac la Nonne), but as Fleming and Snyder (1939) point out, they average slightly darker. This difference is more noticeable in a comparison with the more western series. The James Bay birds are very distinct from the more reddish brown (typical *M. m. melodia*) specimens from the Ottawa region, although owing to the variation in breeding birds from this part of Ontario (Cf. Fleming & Snyder, 1939) they are indistinguishable from other specimens. An adequate series of breeding birds from more eastern districts is not available for comparison.

#### Lapland Longspur, *Calcarius lapponicus lapponicus* (Linnaeus)

The Lapland Longspur is a common spring and autumn migrant on the west James Bay and probably the southern Hudson Bay coast. It nests at Cape Henrietta Maria and probably westward along the barrens to Little Cape. The catalogue of the United States National Museum lists a specimen taken at Moose Factory by Haydon in 1881 (Preble, 1902, p. 119). Hewitt found the Lapland Longspur common in southern James Bay in May and September, 1947. Stirrett saw ten at Ship Sands on October 2, 1948, and two at Attawapiskat on October 13. Lewis and Peters (1941) recorded them on southern Akimiski Island between September 18 and 20, 1940. In 1904, Spreadborough (Macoun & Macoun, 1909, p. 484) reported that Lapland Longspurs were common from Cape Henrietta Maria to Albany in the latter part of August. Forster (1772, p. 404) records a female from Severn River, where he says the species arrived in November and is a winter resident. The latter statement, however, is probably incorrect (Cf. Swainson & Richardson, 1831, p. 249). Murray (1859, p. 222) records a specimen from Severn House.

The Lapland Longspurs listed for Ship Sands and North Point were migrants feeding in large flocks along the shore, but by the time we reached Big Piskwanish, most of the migrants had left for the north. I found one nest with eggs and collected one juvenile not quite able to fly at Cape Henrietta Maria, where, I think, all those seen were or had been nesting. A juvenile was also collected at Little Cape.

The following table gives the hours spent on the coastal barrens where all the Lapland Longspurs were seen.

Place	Date	Hours	Number seen	Number collected
Sandy Island.....	May 31, 1947	-	-	3
Ship Sands.....	May 31, 1947	3	200	-
North Point.....	June 3-6, 1947	6	350	2
Big Piskwanish.....	June 11, 1947	7	8	
Long Ridge Point.....	June 15, 1947	5	3	1
Cape Henrietta Maria.....	July 20-24, 1947	16	41	10 + 1 juv.
Little Cape.....	Aug. 1, 1947	8	6	1 + 1 juv.

#### Smith's Longspur, *Calcarius pictus* (Swainson)

Smith's Longspur probably nests at Little Cape where, between July 29 and August 1, I counted sixteen and collected eleven, including one juvenile. I also saw one at Shagamu River. Murray (1859, p. 223) received three specimens from Severn House.

#### Eastern Snow Bunting, *Plectrophenax nivalis nivalis* (Linnaeus)

It seems unlikely that the Snow Bunting nests regularly anywhere between Moosonee and York Factory, although it may occasionally be seen there during the summer. The catalogue of the United States National Museum records a specimen taken at Moose Factory by Haydon in 1881 (Preble, 1902, p. 119). Hewitt saw several Snow Buntings on Ship Sands in May, 1947. I saw three (collected) near the shore at North Point between June 3 and 6, 1947, and two (one collected) at Long Ridge Point between June 15 and 16. Stirrett saw twenty-five (one collected) at Attawapiskat on October 13, 1948. MacKenzie saw one at Cape Henrietta Maria about July 20, 1947, and I saw one at Shagamu River on July 23. Forster (1772, p. 403), who records three specimens from Severn River, says that they are the first migrants to arrive. In 1771, they arrived on April 11 and stayed a month or five weeks before proceeding north to breed. They returned in September and stayed until the cold grew severe in November. Murray (1859, p. 222) records the Snow Bunting from Severn House, and Bell (1884), from York Factory.

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## PLATE II



A. Opposite Middleboro Island. A lumber cutting in the spruce half a mile in from Moose River. About one tree in 500 was a balsam fir. One of these has been left standing in the foreground. Birds were usually rather scarce in the spruce near Moose River estuary, but several species had been attracted to this open area.



B. Sandy Island, June 21, 1949. The sandy bank of Moose River at high tide. Behind it is a band of willow, alder, and young poplar. The main poplar grove can be seen in the top right-hand corner. The edge of the tall willow was a favourite feeding ground for warblers, flycatchers, and White-throated Sparrows. Robins came out to feed along the beach in the early morning and evening.



A. Sandy Island. May 30, 1947. An old creek channel, now a sedge marsh between 12-foot willow thickets. When this photograph was taken there were no leaves on the willow, and a foot or more of water lay between the sedge tussocks. Several small flocks of Tree and Swamp Sparrows were then seen, but in the second half of June, 1949, birds were very scarce there. On September 10, 1950, the ground was hard and dry, and Lincoln's Sparrows, the only species seen, were numerous.



B. Near Sandy Island. June 21, 1949. Red-winged Blackbirds inhabited this cat-tail marsh which lies in a sedge meadow just west of Langland's Gutway. Surrounding it are willow and alder thickets with an occasional spruce growing on dryer ground.



A. Ship Sands. June 17, 1947. Tide flats and sedge marshes on the seaward part of Ship Sands. A tidal creek runs inland for about a mile from the head of the little bay shown in the photograph.



B. North Point. June 6, 1947. Driftwood on the barren, isolated, gravel ridges which form North Point. Between the ridges and the inland willow and alder thickets is about half a mile of marshland.



A. Long Ridge Point. June 15, 1947. Dwarf birch, spruce, and poplar, and probably willow, on the landward end of the gravel, pebble, and boulder ridge which forms Long Ridge Point. In the distance over the mainland can be seen the edge of the main black spruce forest which here grows on very wet ground. The leaves are still only in bud.



B. Cape Duncan. June 26, 1947. Dwarf birch and white spruce growing in dry, open country near Cape Duncan.



A. Lake River. July 16, 1947. Dwarf birch and willow scrub near the edge of the spruce at Lake River.



B. Cape Henrietta Maria. July 25, 1947. Our camp on the disintegrated limestone ridges of the Cape Henrietta Maria barrens.

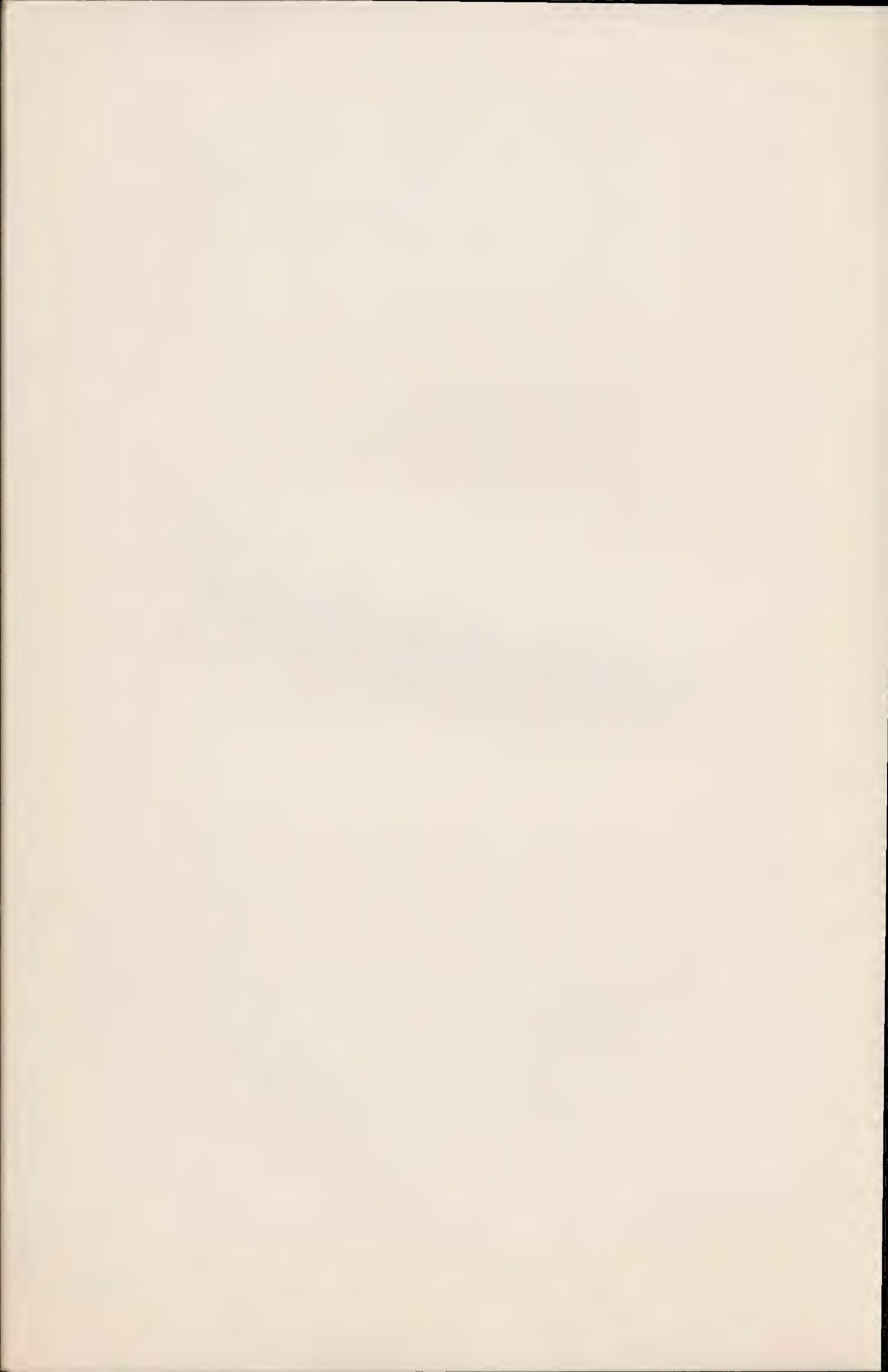
## PLATE VII

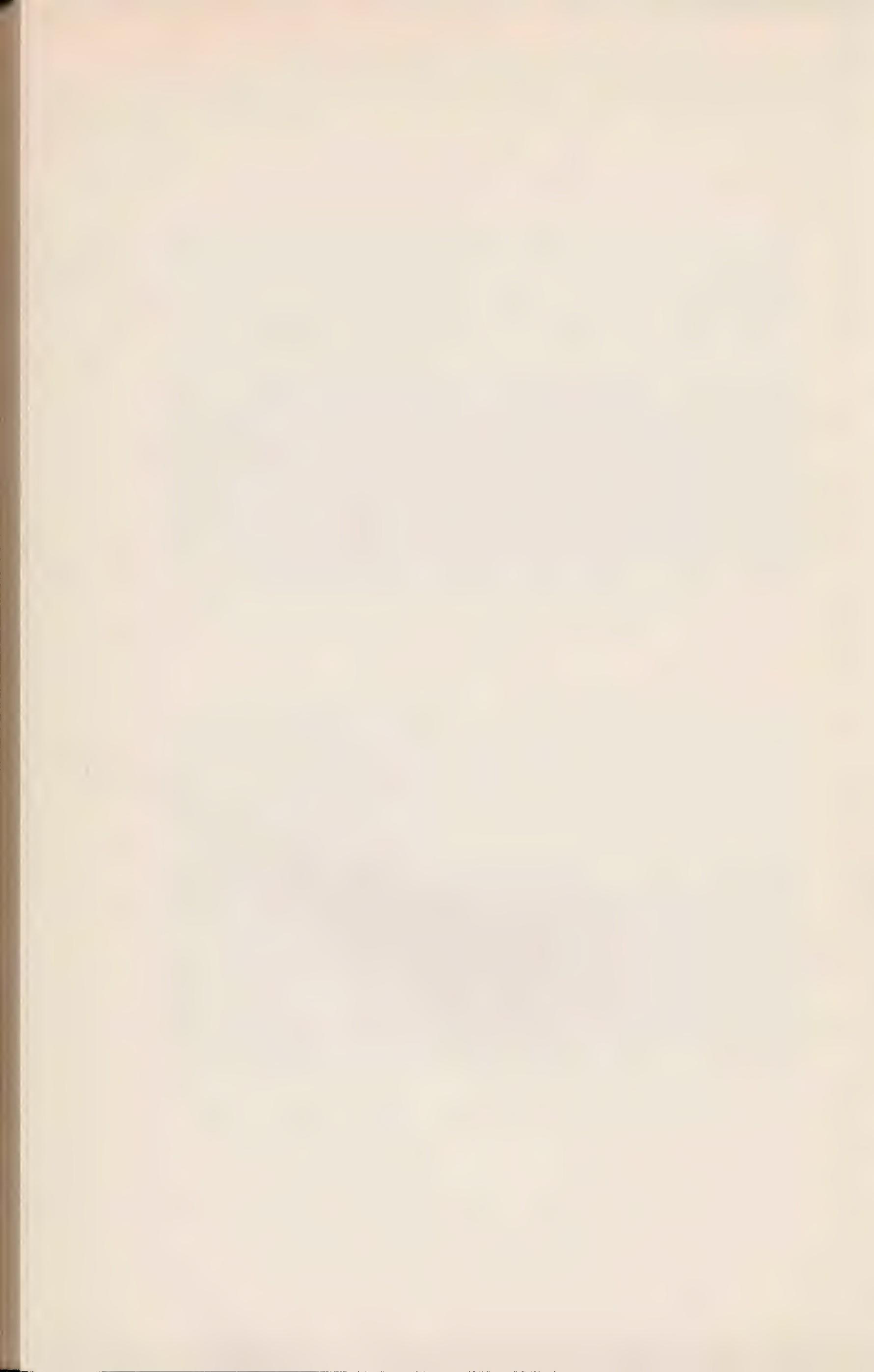


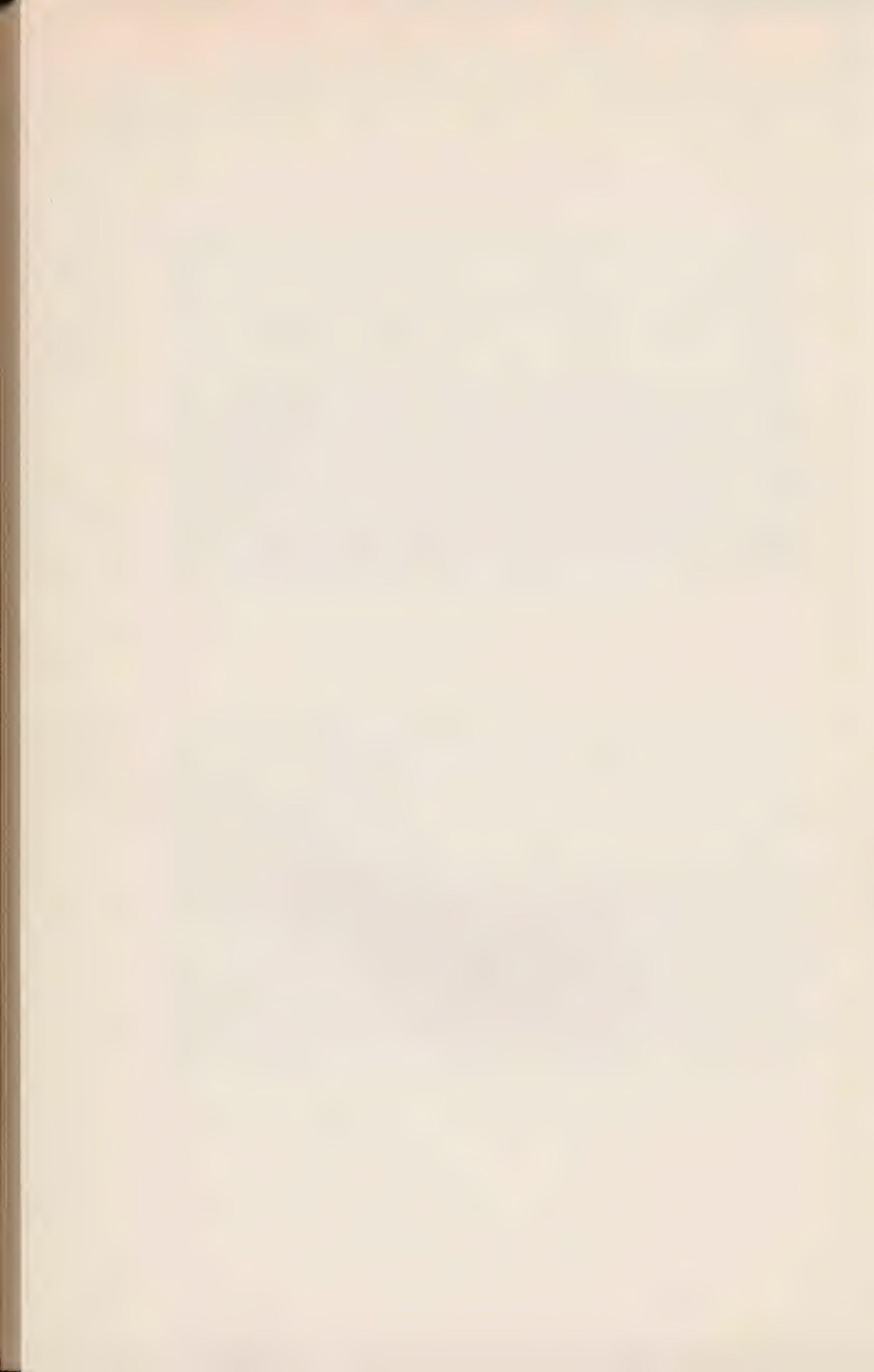
A. Little Cape. August 1, 1947. Willow thickets surrounding the small lake where flightless Green-winged Teal and American Pintails were seen.

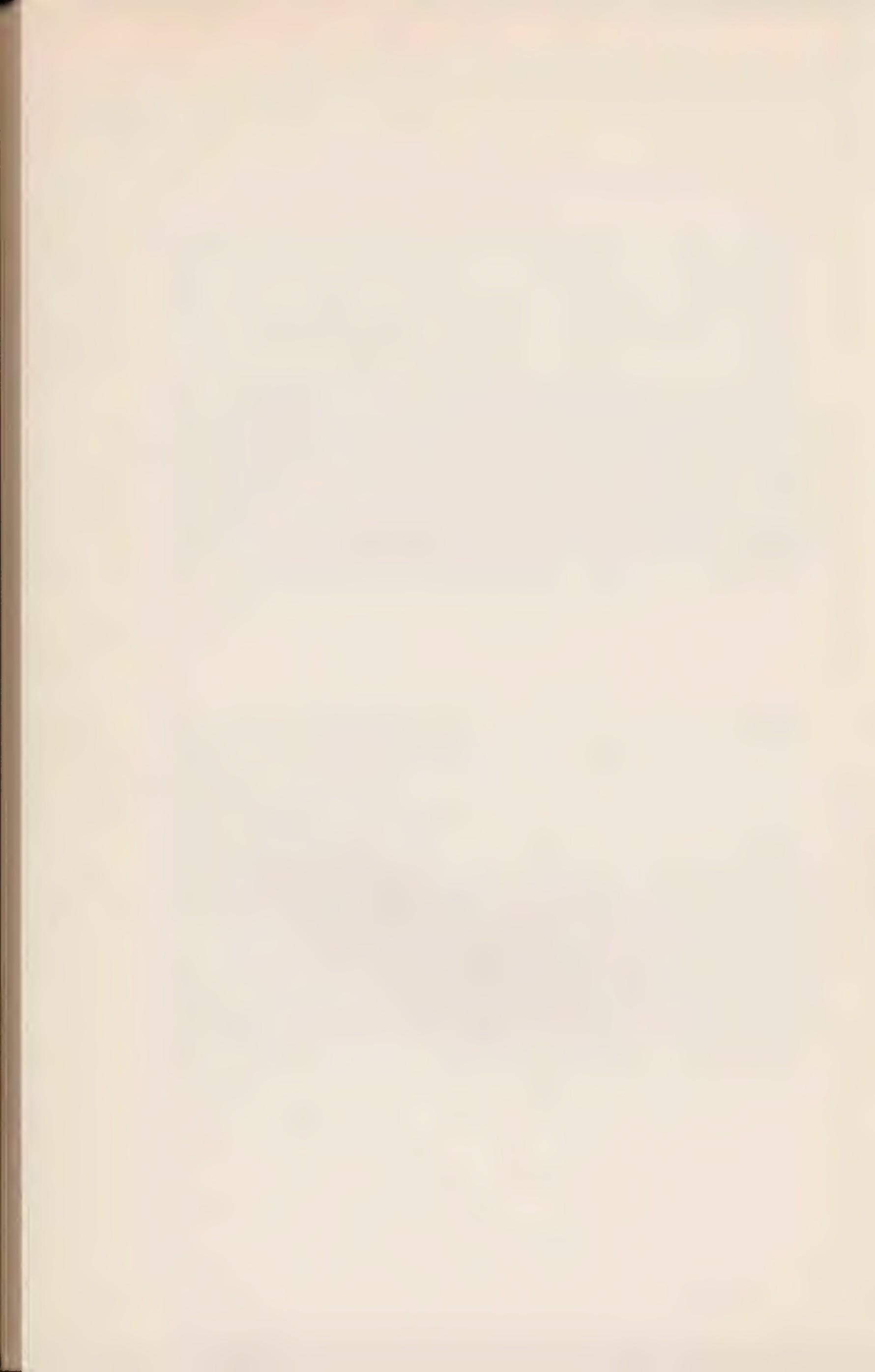


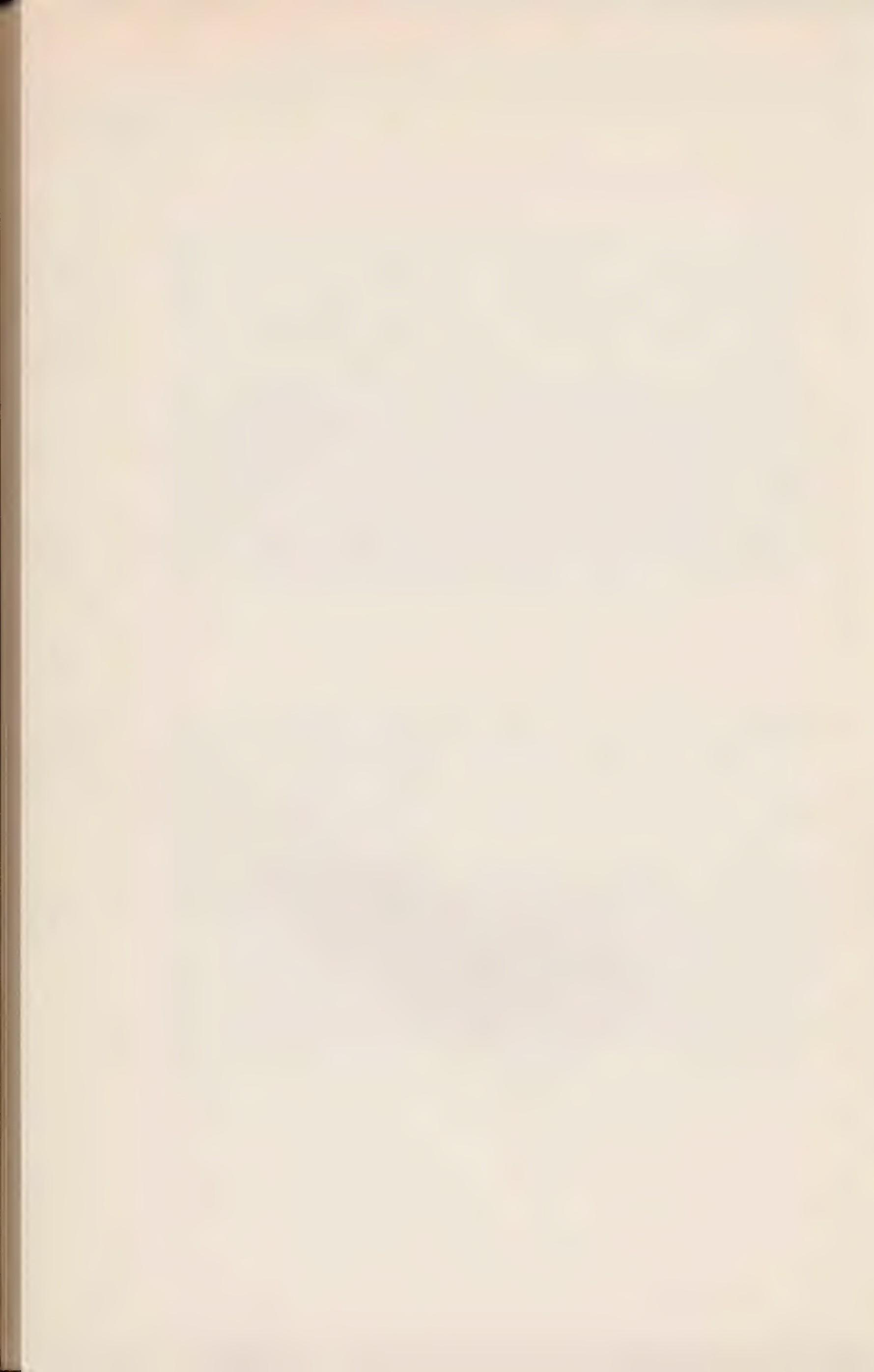
B. Cape Tatnam. Our first camp at Cape Tatnam on the outer sand and gravel beach. Behind this can be seen a tidal inlet and another beach on which *Elymus arenaria* is starting to grow. Behind that again are wide tidal mud flats.

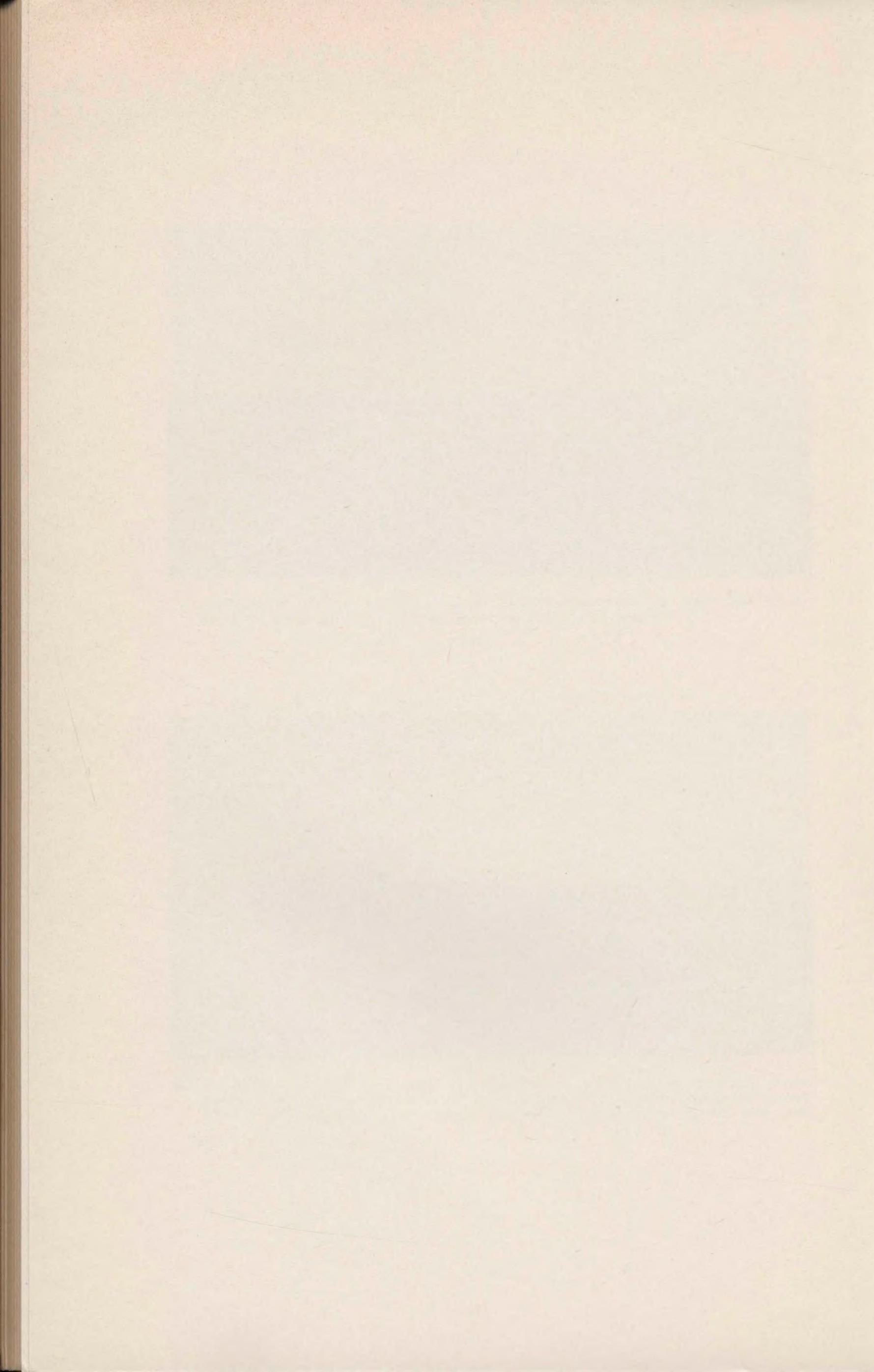


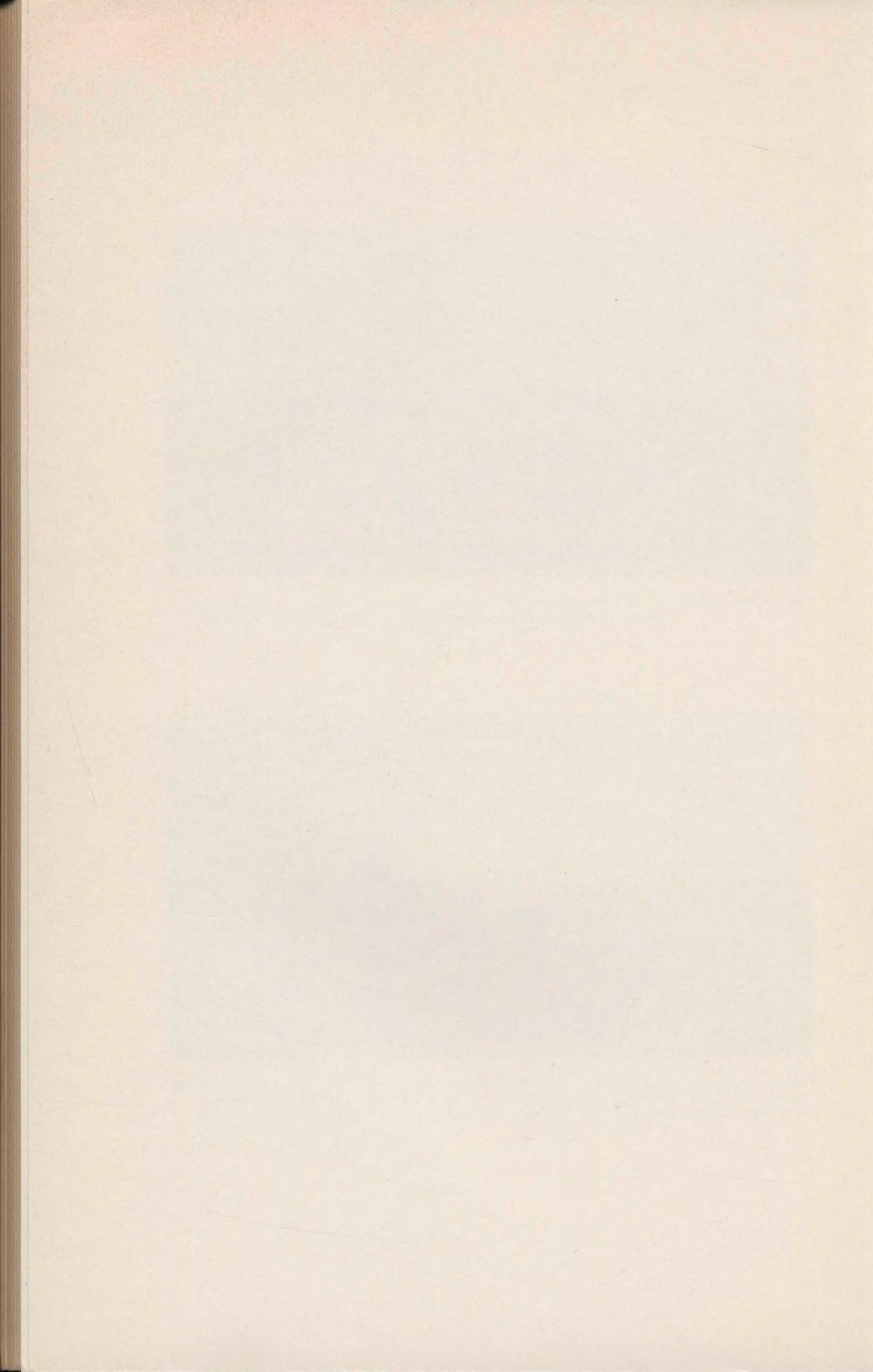


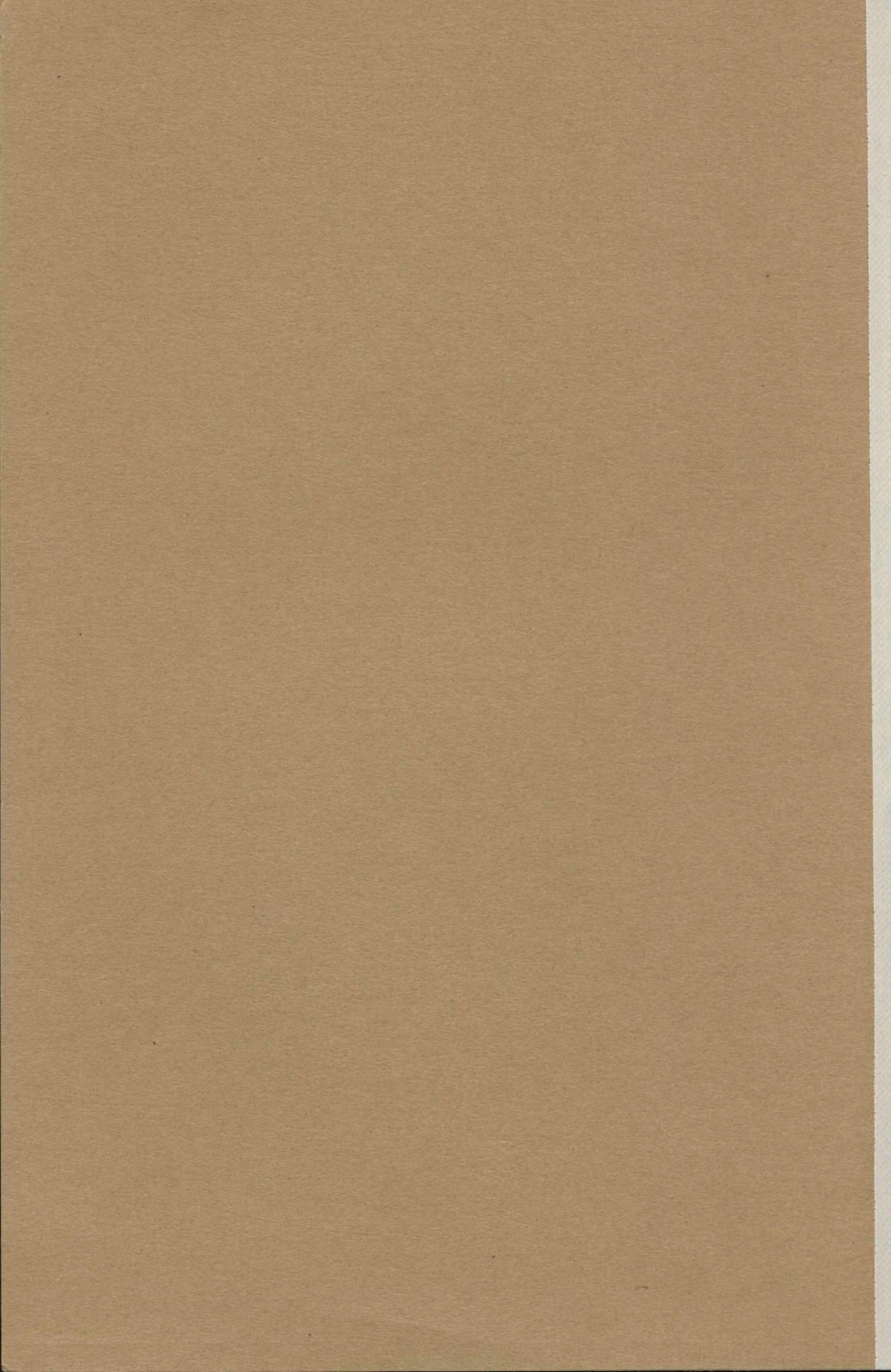












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